

454

V-1-1-A

16091 CLE

505

CS: 16091

ID: C1 C8 V-1-1-A

BORROW REQUIREMENTS				
WHERE REQUIRED STA. TO STA.	AMOUNT REQUIRED	AMOUNT AVAILABLE	SOILS SERIES	PIT LOCATION
Mainline Borrow				
P.O.B. to P.O.E. 64,841 Cyds.	S.Bd. Rdway			Pit #1A
P.O.B. to P.O.E. 51,525 Cyds.	N.Bd. Rdway			W 1/2 SE 1/4 Sec. 36, T 36 N, R 3 W, Burt Twp., Cheboygan Co.
P.O.B. to P.O.E. 9,191 Cyds.	Service Rd. Ramp			From the center of the Pit, thence, South to Eagles Nest Rd. thence, East along Eagles Nest Rd. to Sta. 393+16.47 a total distance of 2000'
Subbase (Entire Project)				
503+00 to 515+00 30,249 Cyds.				
Frost Heave				
P.O.B. to P.O.E. 4,919 Cyds.				
Salvaging Materials				
Entire Project 13,072 Cyds.				Pit #1
Porous Material Grade A				
P.O.B. to P.O.E. 401 Cyds.				SW 1/4 of the SE 1/4 Sec. 28, T 36 N, R 3 W, Burt Twp., Cheboygan Co.
Swamp Backfill				
Entire Project 182,185 Cyds.				From the center of the Pit, thence, East, to Sta. 505+00 Southbound, a total distance of 500'

MICHIGAN
STATE HIGHWAY DEPARTMENT
JOHN C. MACKIE
STATE HIGHWAY COMMISSIONER

THE IMPROVEMENTS COVERED BY THESE PLANS SHALL BE DONE IN ACCORDANCE WITH THE MICHIGAN STATE HIGHWAY DEPARTMENT CURRENT STANDARD SPECIFICATIONS AND SUPPLEMENTAL SPECIFICATIONS.

PLANS FOR PROPOSED ROAD & BRIDGES
MICH. PROJECT I-75-5(3)304
CONTROL SECTION B116091 CI & C8 RN
INDIAN RIVER-MACKINAW CITY ROAD
CHEBOYGAN COUNTY
BURT & TUSCARORA TWP.

- INDEX OF SHEETS
- Sheet No. 1 Title Sheet
 - Sheet No. 2-3 Typical Cross-Section
 - Sheet No. 4 Survey
 - Sheet No. 5-17 Plan & Profile
 - Sheet No. 18-22 Mass Diagram
 - Sheet No. 23-28 Special Details
 - Sheet No. 29-33 Quantity Sheet

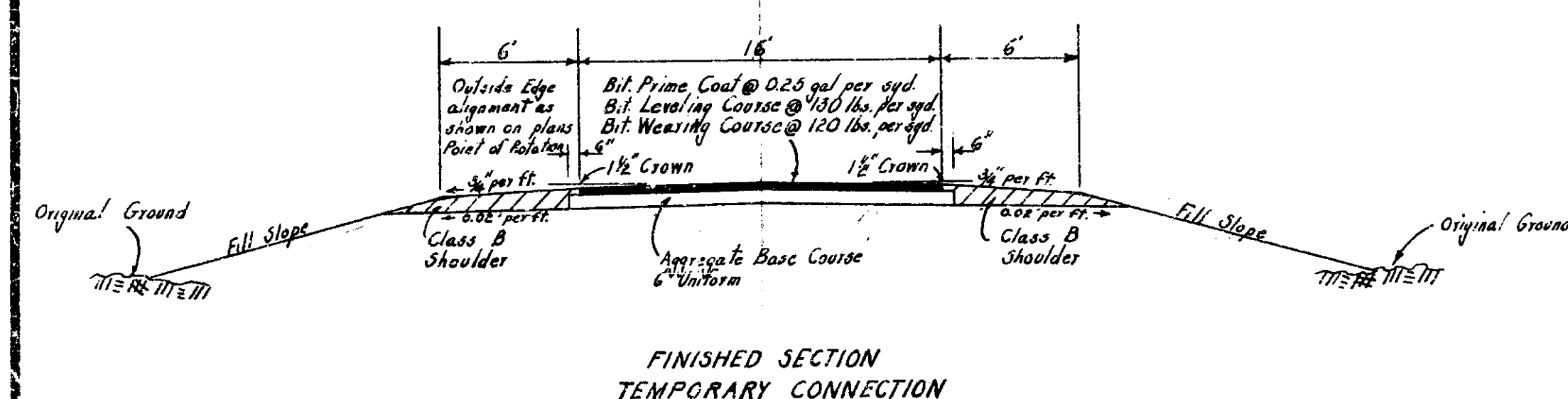
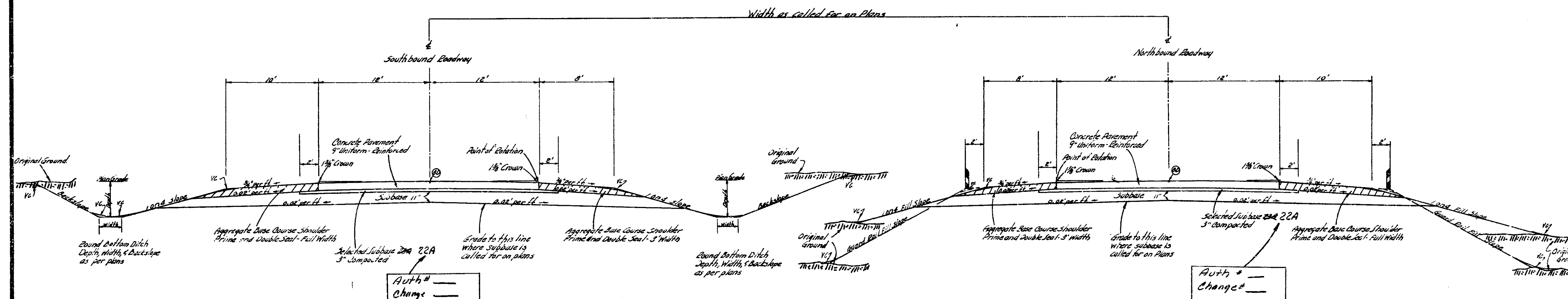
- SIGNING PLANS
- Sheet No. 51-54 Plan Sheets
 - Sheet No. 55-57 Quantity Sheets

TITLE SHEET LEGEND

PROPOSED PROJECT	EXISTING CONDITION
PAVED	PAVED
GRAVEL	GRAVEL
UNPAVED	UNPAVED
RAILROAD	RAILROAD
WATER	WATER
WOOD	WOOD
STONE	STONE
CONCRETE	CONCRETE
ASPHALT	ASPHALT
GRAVEL	GRAVEL
UNPAVED	UNPAVED
RAILROAD	RAILROAD
WATER	WATER
WOOD	WOOD
STONE	STONE
CONCRETE	CONCRETE
ASPHALT	ASPHALT
GRAVEL	GRAVEL
UNPAVED	UNPAVED
RAILROAD	RAILROAD
WATER	WATER
WOOD	WOOD
STONE	STONE
CONCRETE	CONCRETE
ASPHALT	ASPHALT
GRAVEL	GRAVEL
UNPAVED	UNPAVED
RAILROAD	RAILROAD
WATER	WATER
WOOD	WOOD
STONE	STONE
CONCRETE	CONCRETE
ASPHALT	ASPHALT
GRAVEL	GRAVEL
UNPAVED	UNPAVED
RAILROAD	RAILROAD
WATER	WATER
WOOD	WOOD
STONE	STONE
CONCRETE	CONCRETE
ASPHALT	ASPHALT
GRAVEL	GRAVEL
UNPAVED	UNPAVED
RAILROAD	RAILROAD
WATER	WATER
WOOD	WOOD
STONE	STONE
CONCRETE	CONCRETE
ASPHALT	ASPHALT
GRAVEL	GRAVEL
UNPAVED	UNPAVED
RAILROAD	RAILROAD
WATER	WATER
WOOD	WOOD
STONE	STONE
CONCRETE	CONCRETE
ASPHALT	ASPHALT
GRAVEL	GRAVEL
UNPAVED	UNPAVED
RAILROAD	RAILROAD
WATER	WATER
WOOD	WOOD
STONE	STONE
CONCRETE	CONCRETE
ASPHALT	ASPHALT
GRAVEL	GRAVEL
UNPAVED	UNPAVED
RAILROAD	RAILROAD
WATER	WATER
WOOD	WOOD
STONE	STONE
CONCRETE	CONCRETE
ASPHALT	ASPHALT
GRAVEL	GRAVEL
UNPAVED	UNPAVED
RAILROAD	RAILROAD
WATER	WATER
WOOD	WOOD
STONE	STONE
CONCRETE	CONCRETE
ASPHALT	ASPHALT
GRAVEL	GRAVEL
UNPAVED	UNPAVED
RAILROAD	RAILROAD
WATER	WATER
WOOD	WOOD
STONE	STONE
CONCRETE	CONCRETE
ASPHALT	ASPHALT
GRAVEL	GRAVEL
UNPAVED	UNPAVED
RAILROAD	RAILROAD
WATER	WATER
WOOD	WOOD
STONE	STONE
CONCRETE	CONCRETE
ASPHALT	ASPHALT
GRAVEL	GRAVEL
UNPAVED	UNPAVED
RAILROAD	RAILROAD
WATER	WATER
WOOD	WOOD
STONE	STONE
CONCRETE	CONCRETE
ASPHALT	ASPHALT
GRAVEL	GRAVEL
UNPAVED	UNPAVED
RAILROAD	RAILROAD
WATER	WATER
WOOD	WOOD
STONE	STONE
CONCRETE	CONCRETE
ASPHALT	ASPHALT
GRAVEL	GRAVEL
UNPAVED	UNPAVED
RAILROAD	RAILROAD
WATER	WATER
WOOD	WOOD
STONE	STONE
CONCRETE	CONCRETE
ASPHALT	ASPHALT
GRAVEL	GRAVEL
UNPAVED	UNPAVED
RAILROAD	RAILROAD
WATER	WATER
WOOD	WOOD
STONE	STONE
CONCRETE	CONCRETE
ASPHALT	ASPHALT
GRAVEL	GRAVEL
UNPAVED	UNPAVED
RAILROAD	RAILROAD
WATER	WATER
WOOD	WOOD
STONE	STONE
CONCRETE	CONCRETE
ASPHALT	ASPHALT
GRAVEL	GRAVEL
UNPAVED	UNPAVED
RAILROAD	RAILROAD
WATER	WATER
WOOD	WOOD
STONE	STONE
CONCRETE	CONCRETE
ASPHALT	ASPHALT
GRAVEL	GRAVEL
UNPAVED	UNPAVED
RAILROAD	RAILROAD
WATER	WATER
WOOD	WOOD
STONE	STONE
CONCRETE	CONCRETE
ASPHALT	ASPHALT
GRAVEL	GRAVEL
UNPAVED	UNPAVED
RAILROAD	RAILROAD
WATER	WATER
WOOD	WOOD
STONE	STONE
CONCRETE	CONCRETE
ASPHALT	ASPHALT
GRAVEL	GRAVEL
UNPAVED	UNPAVED
RAILROAD	RAILROAD
WATER	WATER
WOOD	WOOD
STONE	STONE
CONCRETE	CONCRETE
ASPHALT	ASPHALT
GRAVEL	GRAVEL
UNPAVED	UNPAVED
RAILROAD	RAILROAD
WATER	WATER
WOOD	WOOD
STONE	STONE
CONCRETE	CONCRETE
ASPHALT	ASPHALT
GRAVEL	GRAVEL
UNPAVED	UNPAVED
RAILROAD	RAILROAD
WATER	WATER
WOOD	WOOD
STONE	STONE
CONCRETE	CONCRETE
ASPHALT	ASPHALT
GRAVEL	GRAVEL
UNPAVED	UNPAVED
RAILROAD	RAILROAD
WATER	WATER
WOOD	WOOD
STONE	STONE
CONCRETE	CONCRETE
ASPHALT	ASPHALT
GRAVEL	GRAVEL
UNPAVED	UNPAVED
RAILROAD	RAILROAD
WATER	WATER
WOOD	WOOD
STONE	STONE
CONCRETE	CONCRETE
ASPHALT	ASPHALT
GRAVEL	GRAVEL
UNPAVED	UNPAVED
RAILROAD	RAILROAD
WATER	WATER
WOOD	WOOD
STONE	STONE
CONCRETE	CONCRETE
ASPHALT	ASPHALT
GRAVEL	GRAVEL
UNPAVED	UNPAVED
RAILROAD	RAILROAD
WATER	WATER
WOOD	WOOD
STONE	STONE
CONCRETE	CONCRETE
ASPHALT	ASPHALT
GRAVEL	GRAVEL
UNPAVED	UNPAVED
RAILROAD	RAILROAD
WATER	WATER
WOOD	WOOD
STONE	STONE
CONCRETE	CONCRETE
ASPHALT	ASPHALT
GRAVEL	GRAVEL
UNPAVED	UNPAVED
RAILROAD	RAILROAD
WATER	WATER
WOOD	WOOD
STONE	STONE
CONCRETE	CONCRETE
ASPHALT	ASPHALT
GRAVEL	GRAVEL
UNPAVED	UNPAVED
RAILROAD	RAILROAD
WATER	WATER
WOOD	WOOD
STONE	STONE
CONCRETE	CONCRETE
ASPHALT	ASPHALT
GRAVEL	GRAVEL
UNPAVED	UNPAVED
RAILROAD	RAILROAD
WATER	WATER
WOOD	WOOD
STONE	STONE
CONCRETE	CONCRETE
ASPHALT	ASPHALT
GRAVEL	GRAVEL
UNPAVED	UNPAVED
RAILROAD	RAILROAD
WATER	WATER
WOOD	WOOD
STONE	STONE
CONCRETE	CONCRETE
ASPHALT	ASPHALT
GRAVEL	GRAVEL
UNPAVED	UNPAVED
RAILROAD	RAILROAD
WATER	WATER
WOOD	WOOD
STONE	STONE
CONCRETE	CONCRETE
ASPHALT	ASPHALT
GRAVEL	GRAVEL
UNPAVED	UNPAVED
RAILROAD	RAILROAD
WATER	WATER
WOOD	WOOD
STONE	STONE
CONCRETE	CONCRETE
ASPHALT	ASPHALT
GRAVEL	GRAVEL
UNPAVED	UNPAVED
RAILROAD	RAILROAD
WATER	WATER
WOOD	WOOD
STONE	STONE
CONCRETE	CONCRETE
ASPHALT	ASPHALT
GRAVEL	GRAVEL
UNPAVED	UNPAVED
RAILROAD	RAILROAD
WATER	WATER
WOOD	WOOD
STONE	STONE
CONCRETE	CONCRETE
ASPHALT	ASPHALT
GRAVEL	GRAVEL
UNPAVED	UNPAVED
RAILROAD	RAILROAD
WATER	WATER
WOOD	WOOD
STONE	STONE
CONCRETE	CONCRETE
ASPHALT	ASPHALT
GRAVEL	GRAVEL
UNPAVED	UNPAVED
RAILROAD	RAILROAD
WATER	WATER
WOOD	WOOD
STONE	STONE
CONCRETE	CONCRETE
ASPHALT	ASPHALT
GRAVEL	GRAVEL
UNPAVED	UNPAVED
RAILROAD	RAILROAD
WATER	WATER
WOOD	WOOD
STONE	STONE
CONCRETE	CONCRETE
ASPHALT	ASPHALT
GRAVEL	GRAVEL
UNPAVED	UNPAVED
RAILROAD	RAILROAD
WATER	WATER
WOOD	WOOD
STONE	STONE
CONCRETE	CONCRETE
ASPHALT	ASPHALT
GRAVEL	GRAVEL
UNPAVED	UNPAVED
RAILROAD	RAILROAD
WATER	WATER
WOOD	WOOD
STONE	STONE
CONCRETE	CONCRETE
ASPHALT	ASPHALT
GRAVEL	GRAVEL
UNPAVED	UNPAVED
RAILROAD	RAILROAD
WATER	WATER
WOOD	WOOD
STONE	STONE
CONCRETE	CONCRETE
ASPHALT	ASPHALT
GRAVEL	GRAVEL
UNPAVED	UNPAVED
RAILROAD	RAILROAD
WATER	WATER
WOOD	WOOD
STONE	STONE
CONCRETE	CONCRETE
ASPHALT	ASPHALT
GRAVEL	GRAVEL
UNPAVED	UNPAVED
RAILROAD	RAILROAD
WATER	WATER
WOOD	WOOD
STONE	STONE
CONCRETE	CONCRETE
ASPHALT	ASPHALT
GRAVEL	GRAVEL
UNPAVED	UNPAVED
RAILROAD	RAILROAD
WATER	WATER
WOOD	WOOD
STONE	STONE
CONCRETE	CONCRETE
ASPHALT	ASPHALT
GRAVEL	GRAVEL
UNPAVED	UNPAVED
RAILROAD	RAILROAD
WATER	WATER
WOOD	WOOD
STONE	STONE
CONCRETE	CONCRETE
ASPHALT	ASPHALT
GRAVEL	GRAVEL
UNPAVED	UNPAVED
RAILROAD	RAILROAD
WATER	WATER
WOOD	WOOD
STONE	STONE
CONCRETE	CONCRETE
ASPHALT	ASPHALT
GRAVEL	GRAVEL
UNPAVED	UNPAVED
RAILROAD	RAILROAD
WATER	WATER
WOOD	WOOD
STONE	STONE
CONCRETE	CONCRETE
ASPHALT	ASPHALT
GRAVEL	GRAVEL
UNPAVED	UNPAVED
RAILROAD	RAILROAD
WATER	WATER
WOOD	WOOD
STONE	STONE
CONCRETE	CONCRETE
ASPHALT	ASPHALT
GRAVEL	GRAVEL
UNPAVED	UNPAVED
RAILROAD	RAILROAD
WATER	WATER
WOOD	WOOD
STONE	STONE
CONCRETE	CONCRETE
ASPHALT	ASPHALT
GRAVEL	GRAVEL
UNPAVED	UNPAVED
RAILROAD	RAILROAD
WATER	WATER
WOOD	WOOD
STONE	STONE
CONCRETE	CONCRETE
ASPHALT	ASPHALT
GRAVEL	GRAVEL
UNPAVED	UNPAVED
RAILROAD	RAILROAD
WATER	WATER
WOOD	WOOD
STONE	STONE
CONCRETE	CONCRETE
ASPHALT	ASPHALT
GRAVEL	GRAVEL
UNPAVED	UNPAVED
RAILROAD	RAILROAD
WATER	WATER
WOOD	WOOD
STONE	STONE
CONCRETE	CONCRETE
ASPHALT	ASPHALT
GRAVEL	GRAVEL
UNPAVED	UNPAVED
RAILROAD	RAILROAD
WATER	WATER
WOOD	WOOD
STONE	STONE
CONCRETE	CONCRETE
ASPHALT	ASPHALT
GRAVEL	GRAVEL
UNPAVED	UNPAVED
RAILROAD	RAILROAD
WATER	WATER
WOOD	WOOD
STONE	STONE
CONCRETE	CONCRETE
ASPHALT	ASPHALT
GRAVEL	GRAVEL
UNPAVED	UNPAVED
RAILROAD	RAILROAD
WATER	WATER
WOOD	WOOD
STONE	STONE
CONCRETE	CONCRETE
ASPHALT	ASPHALT
GRAVEL	GRAVEL
UNPAVED	UNPAVED
RAILROAD	RAILROAD
WATER	WATER
WOOD	WOOD
STONE	STONE
CONCRETE	CONCRETE
ASPHALT	ASPHALT
GRAVEL	GRAVEL
UNPAVED	UNPAVED
RAILROAD	RAILROAD
WATER	WATER
WOOD	WOOD
STONE	STONE
CONCRETE	CONCRETE
ASPHALT	ASPHALT
GRAVEL	GRAVEL
UNPAVED	UNPAVED
RAILROAD	RAILROAD
WATER	WATER
WOOD	WOOD
STONE	STONE
CONCRETE	CONCRETE
ASPHALT	ASPHALT
GRAVEL	GRAVEL
UNPAVED	UNPAVED
RAILROAD	RAILROAD
WATER	WATER
WOOD	WOOD
STONE	STONE
CONCRETE	CONCRETE
ASPHALT	ASPHALT
GRAVEL	GRAVEL
UNPAVED	UNPAVED
RAILROAD	RAILROAD
WATER	WATER
WOOD	WOOD
STONE	STONE
CONCRETE	CONCRETE
ASPHALT	ASPHALT
GRAVEL	GRAVEL
UNPAVED	UNPAVED
RAILROAD	RAILROAD
WATER	WATER
WOOD	WOOD
STONE	STONE
CONCRETE	CONCRETE
ASPHALT	ASPHALT
GRAVEL	GRAVEL
UNPAVED	UNPAVED
RAILROAD	RAILROAD
WATER	WATER
WOOD	WOOD
STONE	STONE
CONCRETE	CONCRETE
ASPHALT	ASPHALT
GRAVEL	GRAVEL
UNPAVED	UNPAVED
RAILROAD	RAILROAD
WATER	WATER
WOOD	WOOD
STONE	STONE
CONCRETE	CONCRETE
ASPHALT	ASPHALT
GRAVEL	GRAVEL
UNPAVED	UNPAVED
RAILROAD	RAILROAD
WATER	WATER
WOOD	WOOD
STONE	STONE
CONCRETE	CONCRETE
ASPHALT	ASPHALT
GRAVEL	GRAVEL
UNPAVED	UNPAVED
RAILROAD	RAILROAD
WATER	WATER
WOOD	WOOD
STONE	STONE
CONCRETE	CONCRETE
ASPHALT	ASPHALT
GRAVEL	GRAVEL
UNPAVED	UNPAVED
RAILROAD	RAILROAD
WATER	WATER
WOOD	WOOD
STONE	STONE
CONCRETE	CONCRETE
ASPHALT	ASPHALT
GRAVEL	GRAVEL
UNPAVED	UNPAVED
RAILROAD	RAILROAD
WATER	WATER
WOOD	WOOD
STONE	STONE
CONCRETE	CONCRETE
ASPHALT	ASPHALT
GRAVEL	GRAVEL
UNPAVED	UNPAVED
RAILROAD	RAILROAD
WATER	WATER
WOOD	WOOD
STONE	STONE
CONCRETE	CONCRETE
ASPHALT	ASPHALT
GRAVEL	GRAVEL
UNPAVED	UNPAVED
RAILROAD	RAILROAD
WATER	WATER
WOOD	WOOD
STONE	STONE
CONCRETE	CONCRETE
ASPHALT	ASPHALT
GRAVEL	GRAVEL
UNPAVED	UNPAVED
RAILROAD	RAILROAD
WATER	WATER
WOOD	WOOD
STONE	STONE
CONCRETE	CONCRETE
ASPHALT	ASPHALT
GRAVEL	GRAVEL
UNPAVED	UNPAVED
RAILROAD	RAILROAD
WATER	WATER
WOOD	WOOD
STONE	STONE
CONCRETE	CONCRETE
ASPHALT	ASPHALT
GRAVEL	GRAVEL
UNPAVED	UNPAVED
RAILROAD	RAILROAD
WATER	WATER
WOOD	WOOD
STONE	STONE
CONCRETE	CONCRETE
ASPHALT	ASPHALT
GRAVEL	GRAVEL
UNPAVED	UNPAVED
RAILROAD	RAILROAD
WATER	WATER
WOOD	WOOD
STONE	STONE
CONCRETE	CONCRETE
ASPHALT	ASPHALT
GRAVEL	GRAVEL
UNPAVED	UNPAVED
RAILROAD	RAILROAD
WATER	WATER
WOOD	WOOD
STONE	STONE
CONCRETE	CONCRETE
ASPHALT	ASPHALT
GRAVEL	GRAVEL
UNPAVED	UNPAVED
RAILROAD	RAILROAD
WATER	WATER
WOOD	WOOD
STONE	STONE
CONCRETE	CONCRETE
ASPHALT	ASPHALT
GRAVEL	GRAVEL
UNPAVED	UNPAVED
RAILROAD	RAILROAD
WATER	WATER
WOOD	WOOD
STONE	STONE
CONCRETE	CONCRETE
ASPHALT	ASPHALT
GRAVEL	GRAVEL
UNPAVED	UNPAVED
RAILROAD	RAILROAD
WATER	WATER
WOOD	WOOD
STONE	STONE
CONCRETE	CONCRETE
ASPHALT	ASPHALT
GRAVEL	GRAVEL
UNPAVED	UNPAVED
RAILROAD	RAILROAD
WATER	WATER
WOOD	WOOD
STONE	STONE
CONCRETE	CONCRETE
ASPHALT	ASPHALT
GRAVEL	GRAVEL
UNPAVED	UNPAVED
RAILROAD	RAILROAD
WATER	WATER
WOOD	WOOD
STONE	STONE
CONCRETE	CONCRETE
ASPHALT	ASPHALT
GRAVEL	GRAVEL
UNPAVED	UNPAVED
RAILROAD	RAILROAD
WATER	WATER
WOOD	WOOD
STONE	STONE
CONCRETE	CONCRETE
ASPHALT	ASPHALT
GRAVEL	GRAVEL
UNPAVED	UNPAVED
RAILROAD	RAILROAD
WATER	WATER
WOOD	WOOD
STONE	STONE
CONCRETE	CONCRETE
ASPHALT	ASPHALT
GRAVEL	GRAVEL
UNPAVED	UNPAVED
RAILROAD	RAILROAD
WATER	WATER
WOOD	WOOD
STONE	STONE
CONCRETE	CONCRETE
ASPHALT	ASPHALT
GRAVEL	GRAVEL
UNPAVED	UNPAVED

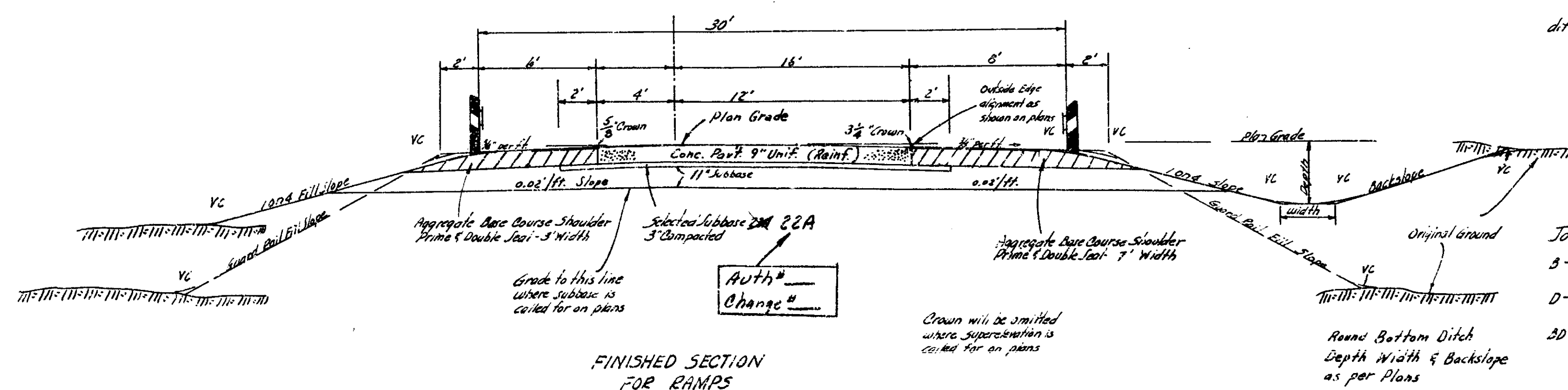
TYPICAL CROSS-SECTIONS

DIST. NO.	STATE	FED. PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	MICH.	125-50334		2	
ROUTE	PROJECT	COUNTY		SHEET NO.	TOTAL SHEETS
16001	Shelby			2	
DIST. NO.	STATE	FED. PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	MICH.	125-50334		2	
ROUTE	PROJECT	COUNTY		SHEET NO.	TOTAL SHEETS
16001	Shelby			2	



FINISHED SECTION

Scale 1"=5'



Notes:

Forditches other than shown on this sheet see Std. Plan E-4-A-26 D

All unsloped slopes and ditches shall be finished at the rate of 2% tons per acre.

Topsoil shall be removed and stockpiled as directed by the Engineer, for use as Topsoil Surface.

Class B Slopes will be required on this Project.

At the time of Muck Excavation, widen section to provide stable foundations for entire Culverts including headwalls.

Topsoil Surface on all unsloped slopes and ditches. Est. 2" Loose Depth.

Joint Legend:

S- Longitudinal/ Diagonal construction joint according to Std. Plan E-4-A-33 F Det. 2

D- Longitudinal Lane Tie Joint with Tie Bars according to Std. Plan E-4-A-33 F Det. 3

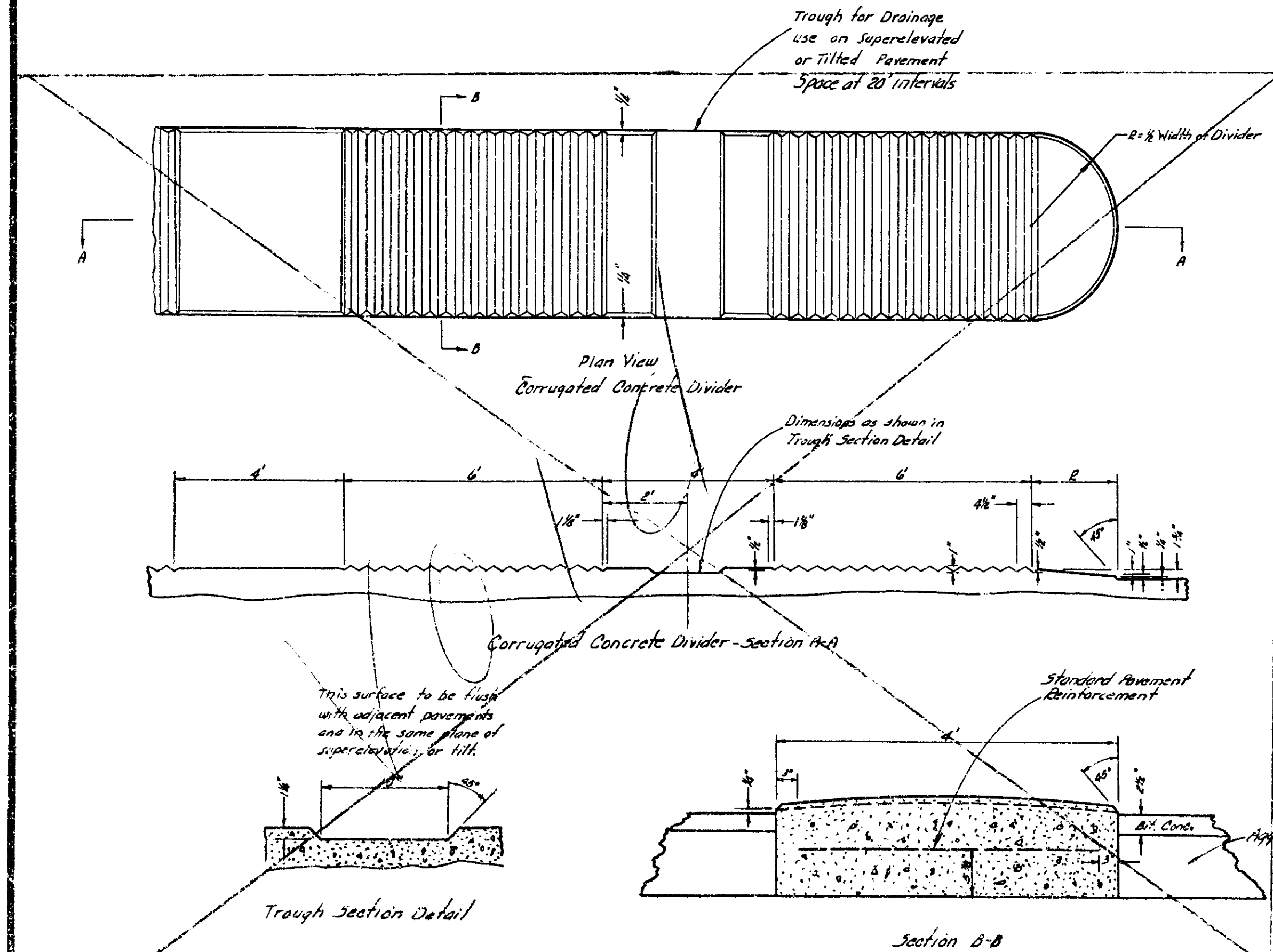
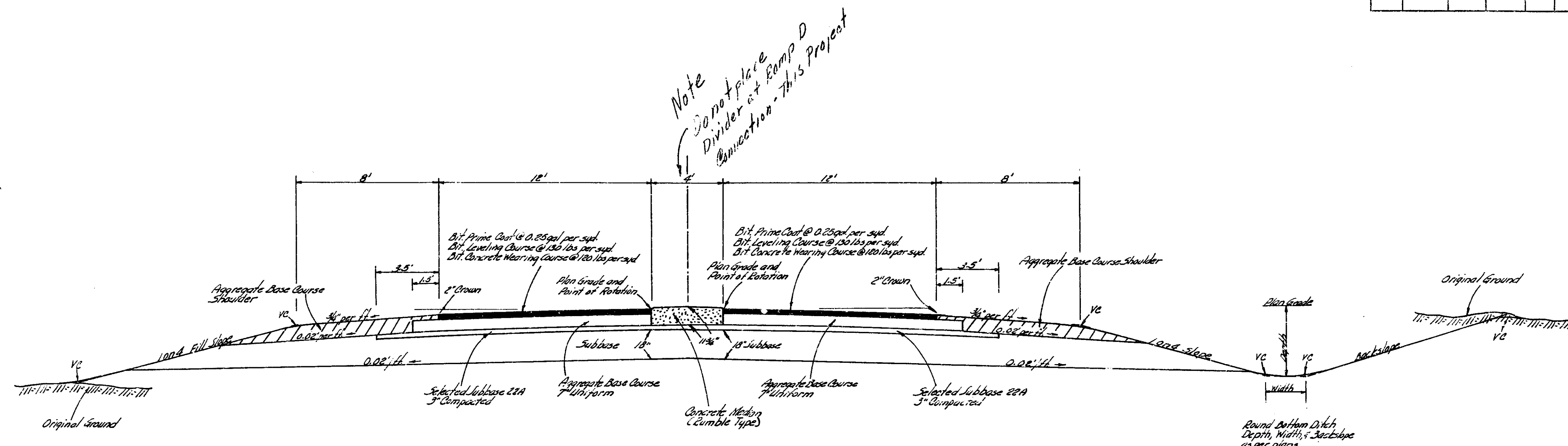
3D- Optional Bar D

UNRECORDED

V-1-1A

TYPICAL CROSS-SECTIONS

1601					
STATE	PROJECT	COUNTY	SHEET NO.	TOTAL SHEETS	
4	MICH.	155-50300			
ROUTE	STATE	PROJECT	COUNTY	SHEET NO.	TOTAL SHEETS
1601-1601	1601	Chippewa		3	
1601					
STATE	PROJECT	COUNTY	SHEET NO.	TOTAL SHEETS	
4	MICH.				
ROUTE	STATE	PROJECT	COUNTY	SHEET NO.	TOTAL SHEETS

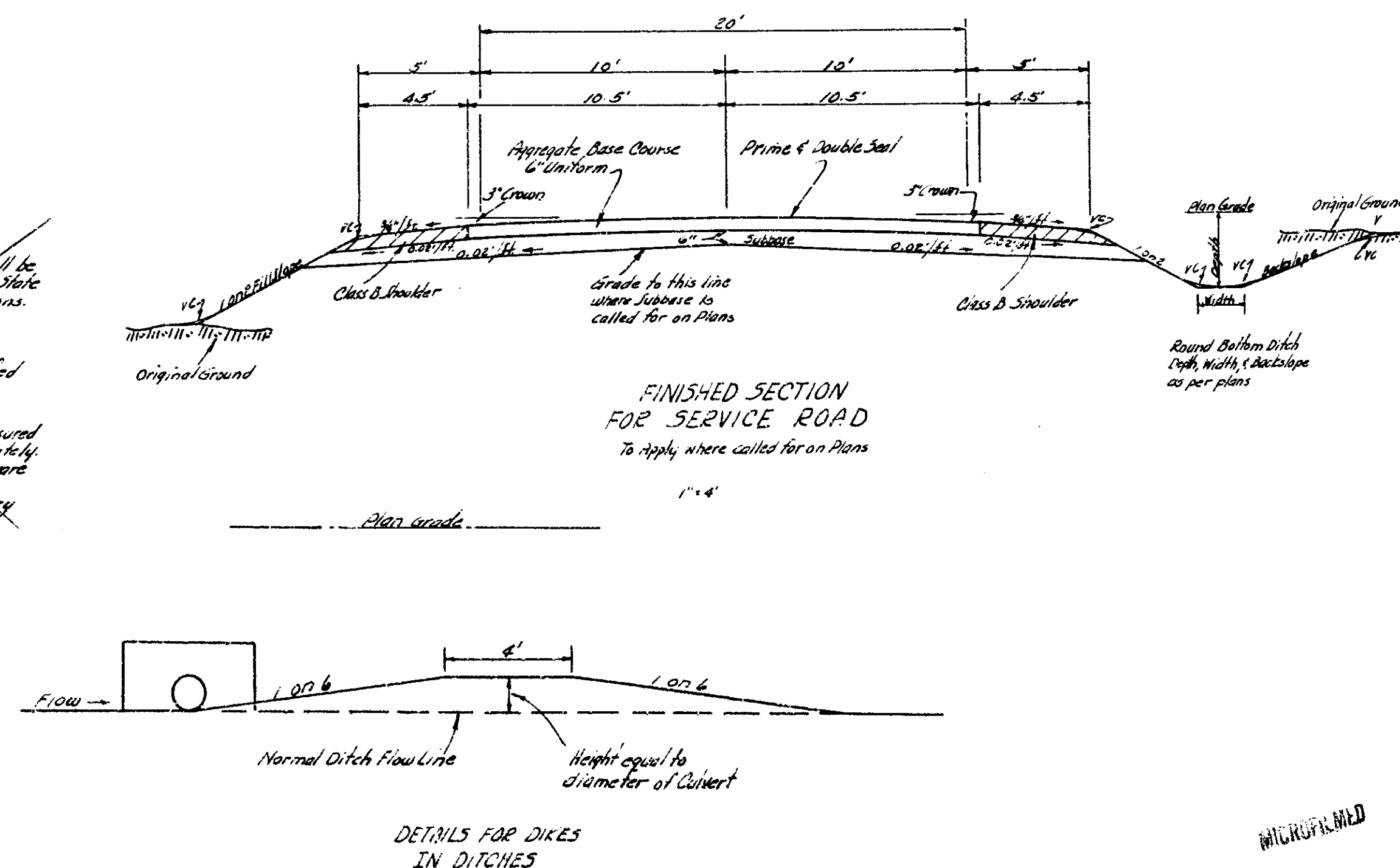


Notes:

All materials and workmanship shall be in accordance with the current Michigan State Highway Department Standard Specifications. Grade III Concrete shall be used in the Corrugated Concrete Dividers.

Concrete Dividers of the type specified will be required and paid for by area in square yards.

Reinforcement will be measured by area in square yards and paid for separately. The area paid for shall be equal to the square yards of Concrete Dividers required to be reinforced with no allowance for necessary laps and splices.



V-1-1A

MICROFILMED

SPECIAL PROVISIONS

STATION MARKINGS ON HEADWALLS

The Engineer shall place station numbers on all concrete culvert headwalls. The stationing of the centerline of the culvert shall be marked on the top of each headwall with base of numbers toward center of road by using standard pavement marking forms.

TRANSVERSE JOINTS IN CONCRETE PAVEMENT

Transverse joints in concrete pavement shall be placed according to details on Standard Plan E-4-A-135A and E-4-A-127A.

HAND FINISHING

Hand finishing according to Article 4.14.03-q-1 of the Standard Specifications will be permitted on all except the normal full width traffic lanes as directed by the Engineer.

PAVEMENT REINFORCEMENT

The pavement reinforcement shall conform to Standard Plan E-4-A-21F except that the length of sheet or mat for 12-foot lanes may be 15'-0" instead of 10'-0". The laying lap for 15-foot length sheet or mat shall be 15 inches. The computed weight of steel per standard sheet is as follows:

Type of Reinforcement	Weight per 15-foot length of Standard Sheet for 12-foot lane in lbs.
Mesh	128.9
Bar Mat	142.2
Expanded Metal	136.0

WOVEN WIRE FENCE

Where woven wire fence is called for, the Engineer shall check the right of way as actually acquired before placing fence.

RIGHT OF WAY FENCE

Permanent right of way fence shall be constructed as the first operation in cases where the right of way cuts across stock grazing areas. Temporary fencing, when ordered by the engineer, will be paid for at the contract unit price for the type of fence specified.

16091

16091 - South Bound Rdwy.

The following items of work shall be done as they apply throughout the project. These items are not detailed or included on the Plan and Profile Sheets.

Earth Excavation (Salvaging Material in fill areas)	4900 Cu.Yds.
Borrow (To replace salvaged materials)	5714 Cu.Yds.
Overhaul (On above Borrow)	2856 Comp.Cu.Yd.Mi.
Fine Grading and Cleanup Sta. 562+00 to Sta. 521+00	159 Stas.
Topsoil Surface (On unsloped slopes and ditches)	4500 Cu.Yds.
Mulching (Slopes, as directed by the Engineer)	51 Tons
Seeding - Class 2	20 Acres

The following items are estimated for the entire project to correct possible unstable subgrade conditions where designated by the Engineer.

Earth Excavation (Frost Heave)	2718 Cu.Yds.
**Borrow	3261 Cu.Yds.
Overhaul (Borrow)	3260 Comp.Cu.Yd.Mi.
6" Sewer Pipe Underdrain	1840 Lin.Ft.
Excavation (Waste from Sewer Trenches)	410 Cu.Yds.
Porous Material - Grade B (loose measure)	170 Cu.Yds.
**Porous Material - Grade A	240 Cu.Yds.
Overhaul (Porous Material - Grade A)	240 Comp.Cu.Yd.Mi.
Grade "A" Concrete	1.5 Cu.Yds.
Reinforcing Steel	75 Lbs.
Guard Posts	3 Each

**Classed as Earth Excavation from Pit No. 1 and 1A.

16091 - Ramp D

The following items of work shall be done as they apply throughout the project. These items are not detailed or included on the Plan and Profile Sheets.

Earth Excavation (Salvaging Materials in Fill Areas)	260 Cu.Yds.
Borrow (To replace salvaged material)	312 Cu.Yds.
Overhaul (On above Borrow)	312 Comp. Cu. Yd. Mi.
Fine Grading and Cleanup Sta. 0+14 to Sta. 8+00 - Ramp D	8 Stas.
Topsoil Surface (On unsloped slopes and ditches)	260 Cu.Yds.
Mulching (Slopes, as directed by the Engineer)	2 Tons
Seeding - Class 2	1 Acre
The following items are estimated for the entire project to correct possible unstable subgrade conditions where designated by the Engineer.	
Earth Excavation (Frost Heave)	183 Cu.Yds.
**Borrow	222 Cu.Yds.
Overhaul (Borrow)	222 Comp.Cu.Yd.Mi.
6" Sewer Pipe Underdrain	190 Lin.Ft.
Excavation (Waste from sewer trenches)	44 Cu.Yds.
Porous Material - Grade B (loose measure)	18 Cu.Yds.
**Porous Material - Grade A	36 Cu.Yds.
Overhaul (Porous Material - Grade A)	36 Comp.Cu.Yd.Mi.
Grade "A" Concrete	1.0 Cu.Yds.
Reinforcing Steel	50 Lbs.
Guard Posts	2 Each

**Classed as Earth Excavation from Pit No. 1A.

16091 Service Roads

The following items of work shall be done as they apply throughout the project. These items are not detailed or included on the Plan and Profile Sheets.

Fine Grading and Cleanup Sta. 49+00 to Sta. 84+00 (Eagles Nest Road)	
Sta. 146+30 to Sta. 521+00 (Needles to Popinabe)	119 Stas.
Overhaul (Shoulder borrow)	1650 Comp.Cu.Yd.Mi.
Mulching (Slopes, as directed by the Engineer)	20 Tons
Seeding - Class 2	8 Acres

16091 Northbound Roadway

The following items of work shall be done as they apply throughout the project. These items are not detailed or included on the Plan and Profile Sheets.

Earth Excavation (Salvaging materials in fill areas)	5872 Cu.Yds.
Borrow (To replace salvaged materials)	7016 Cu.Yds.
Overhaul (on above borrow)	5880 Comp.Cu.Yd.Mi.
Fine Grading and Cleanup Sta. 536+00 to Sta. 521+00	165 Stas.
Topsoil Surface (On unsloped slopes and ditches)	150 Hours
Mulching (Slopes, as directed by the Engineer)	3872 Cu.Yds.
Seeding - Class 2	22 Acres

The following items are estimated for the entire project to correct possible unstable subgrade conditions where designated by the Engineer.

Earth Excavation (Frost Heave)	1195 Cu.Yds.
**Borrow	1435 Cu.Yds.
Overhaul (Borrow)	1435 Comp.Cu.Yd.Mi.
6" Sewer Pipe Underdrain	841 Lin.Ft.
Excavation (Waste from sewer trenches)	290 Cu.Yds.

PUBLIC UTILITIES

The following Public Utilities are represented on this project:

Power Lines	R & A Boysie City
Power Lines	Consumers Power Co. Jackson, Michigan
Telephone Lines	Michigan Bell Telephone Traverse City, Michigan

The owners of existing poles and other service structures that are within grading limits and that will interfere with construction operations will move them to locations designated by the Engineer or will remove them entirely from the highway right of way.

Owners of public utilities will not be required by the Department to move additional poles and structures in order to facilitate the operation of construction equipment.

GENERAL PLAN NOTES

BEDDING AND FILLING

Bedding and filling around pipe culverts shall be done as specified on Standard Plan E-4-A-36C. An estimate of the sand gravel fill required is included on the plans.

PROPERTY OWNERS

Property owners' names, where shown, are for information only and their accuracy is not guaranteed.

POLES

No Poles will be permitted within the right of way along the relocated portion of this project. On the balance of the project, the exact location will be determined by the Engineer.

16091 - Northbound Roadway Cont.

Porous Material - Grade B (loose measure)	75 Cu.Yds.
**Porous Material - Grade A	125 Cu.Yds.
Overhaul (Porous Material - Grade A)	100 Comp.Cu.Yd.Mi.
Grade "A" Concrete	1.0 Cu.Yds.
Reinforcing Steel	50 Lbs.
Guard Posts	2 Each

**Classed as Earth Excavation from Pit No. 1 and 1A.

ROUTE	STATE	COUNTY	PROJECT NO.	SHEET NO.	TOTAL SHEETS
7	MICH.	OSHTON	16091	1	4

16091

Where the following items are called for on plans, they are to be constructed according to the Standard Plan given below opposite each item unless otherwise indicated.

Cross references on Standard Plans shall be understood to refer to the latest approved Standard Plan for the detail in question.

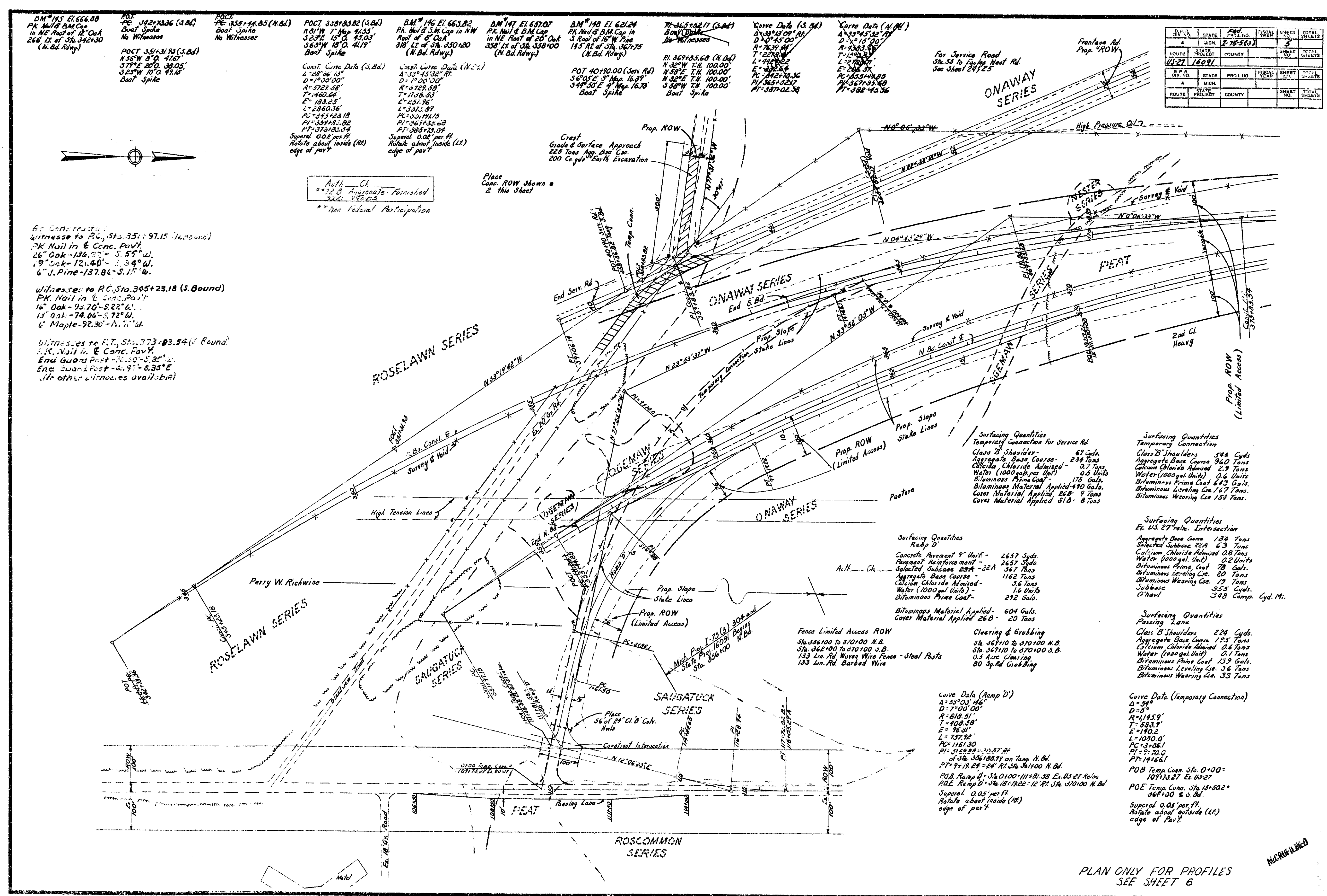
Outlet Headwalls	E-4-A-9D, Detail 1 or 2
Concrete Rings	E-4-A-9D, Detail 3
Sewer Pipe Underdrain	E-4-A-9D, Detail 5
Sodding	E-4-A-10B
Ditch Turnout	E-4-A-10B, Detail 11
Pavement Reinforcement	E-4-A-21F
Grading Cross-Sections	E-4-A-26D
Cover F and Monument Box (Monument Boxes furnished by the State)	E-4-A-27F-5
Treatment of Peat Marshes	E-4-A-28D
Pavement Joints	E-4-A-33F (excepting the plain tie bars will not be permitted)
Bedding and Filling around Pipe Culverts	E-4-A-36C
Superelevation of Curves	E-4-A-49B-7 (except that rate of superelevation is to be as called for on plans)
Pavement Crowns	E-4-A-49B-7
Two Cable Guard Rail and Guard Posts	E-4-A-73C-2
Concrete Right of Way Markers	E-4-A-76A
Road Project Markers	E-4-A-77D
Typical Joint Layout	E-4-A-127A
Dowel Bar Installation for load Transfer at Transverse Contraction and Expansion Joints	Optional - E-4-A-130A, E-4-A-130B, E-4-A-130D, or other approved equal
Base Plates for Transverse Pavement Joints	E-4-A-138 - (except that spot welds may be substituted for rivets to attach the 1" ang.)
Location of Transverse Expansion & Contraction Joints in Concrete Pavement	E-4-A-135A
Barricade and Project Sign	E-6-A-35E
Concrete Headwalls for Circular Culverts, 10" to 36" diameter (Headwalls are to be omitted from all circular drive culverts up to 24" diameter, inclusive and a concrete ring shall be placed at each end of these culverts)	E-13-A-1D
Steel Beam Guard Rail	E-4-A-137C

MICROFILMED

V-1-1A

16091R1550

16091-81



BM#145 EL 666.00
PK Nail in 8" Cap
in NE Root of 18" Oak
266 ft of Sta. 342+30
(N. Rd. Right)

POB 351+31.33 (S. Rd.)
N 56° W 8° 0' 47" E
377' E 200.38' 05"
S 23° W 10° 0' 47" E
Boat Spike

POB 355+44.85 (N. Rd.)
Boat Spike
No Witnesses

POB 358+83.82 (S. Rd.)
N 61° W 7° 10' 33" E
S 23° E 15° 0' 47" E
S 63° W 10° 0' 47" E
Boat Spike

Const. Curve Data (S. Rd.)
A=28° 36' 15"
D=7° 10' 00"
R=1700.00'
T=1700.00'
E=1700.00'
L=283.25'
PC=351.36+18.18
PT=357.18+82.00
Superal. 0.05' per ft.
Rotate about inside (RI)
edge of part

BM#146 EL 663.82
PK Nail in 8" Cap in NW
Root of 8" Oak
318 ft of Sta. 350+20
(N. Rd. Right)

Const. Curve Data (N. Rd.)
A=33° 43' 32" R
D=7° 10' 00"
R=1700.00'
T=1700.00'
E=1700.00'
L=283.25'
PC=351.36+18.18
PT=357.18+82.00
Superal. 0.05' per ft.
Rotate about inside (LI)
edge of part

BM#147 EL 651.07
PK Nail in 8" Cap in NE
Root of 20" Oak
330 ft of Sta. 358+00
(N. Rd. Right)

Const. Curve Data (S. Rd.)
A=33° 43' 32" R
D=7° 10' 00"
R=1700.00'
T=1700.00'
E=1700.00'
L=283.25'
PC=351.36+18.18
PT=357.18+82.00
Superal. 0.05' per ft.
Rotate about inside (RI)
edge of part

BM#148 EL 621.24
PK Nail in 8" Cap in
3 Root of 16" W Pine
145 ft of Sta. 367+75
(N. Rd. Right)

Const. Curve Data (S. Rd.)
A=33° 43' 32" R
D=7° 10' 00"
R=1700.00'
T=1700.00'
E=1700.00'
L=283.25'
PC=351.36+18.18
PT=357.18+82.00
Superal. 0.05' per ft.
Rotate about inside (RI)
edge of part

BM#149 EL 621.24
PK Nail in 8" Cap in
3 Root of 16" W Pine
145 ft of Sta. 367+75
(N. Rd. Right)

Const. Curve Data (S. Rd.)
A=33° 43' 32" R
D=7° 10' 00"
R=1700.00'
T=1700.00'
E=1700.00'
L=283.25'
PC=351.36+18.18
PT=357.18+82.00
Superal. 0.05' per ft.
Rotate about inside (RI)
edge of part

Curve Data (S. Rd.)
A=33° 43' 32" R
D=7° 10' 00"
R=1700.00'
T=1700.00'
E=1700.00'
L=283.25'
PC=351.36+18.18
PT=357.18+82.00
Superal. 0.05' per ft.
Rotate about inside (RI)
edge of part

Curve Data (N. Rd.)
A=33° 43' 32" R
D=7° 10' 00"
R=1700.00'
T=1700.00'
E=1700.00'
L=283.25'
PC=351.36+18.18
PT=357.18+82.00
Superal. 0.05' per ft.
Rotate about inside (LI)
edge of part

Curve Data (S. Rd.)
A=33° 43' 32" R
D=7° 10' 00"
R=1700.00'
T=1700.00'
E=1700.00'
L=283.25'
PC=351.36+18.18
PT=357.18+82.00
Superal. 0.05' per ft.
Rotate about inside (RI)
edge of part

Curve Data (N. Rd.)
A=33° 43' 32" R
D=7° 10' 00"
R=1700.00'
T=1700.00'
E=1700.00'
L=283.25'
PC=351.36+18.18
PT=357.18+82.00
Superal. 0.05' per ft.
Rotate about inside (LI)
edge of part

Curve Data (S. Rd.)
A=33° 43' 32" R
D=7° 10' 00"
R=1700.00'
T=1700.00'
E=1700.00'
L=283.25'
PC=351.36+18.18
PT=357.18+82.00
Superal. 0.05' per ft.
Rotate about inside (RI)
edge of part

Curve Data (N. Rd.)
A=33° 43' 32" R
D=7° 10' 00"
R=1700.00'
T=1700.00'
E=1700.00'
L=283.25'
PC=351.36+18.18
PT=357.18+82.00
Superal. 0.05' per ft.
Rotate about inside (LI)
edge of part

Curve Data (S. Rd.)
A=33° 43' 32" R
D=7° 10' 00"
R=1700.00'
T=1700.00'
E=1700.00'
L=283.25'
PC=351.36+18.18
PT=357.18+82.00
Superal. 0.05' per ft.
Rotate about inside (RI)
edge of part

Curve Data (N. Rd.)
A=33° 43' 32" R
D=7° 10' 00"
R=1700.00'
T=1700.00'
E=1700.00'
L=283.25'
PC=351.36+18.18
PT=357.18+82.00
Superal. 0.05' per ft.
Rotate about inside (LI)
edge of part

B.P.R. DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.	E 78-5(d)		5	
ROUTE	STATE	PROJECT	COUNTY	SHEET NO.	TOTAL SHEETS
US-27	16091				
B.P.R. DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
4	MICH.				
ROUTE	STATE	PROJECT	COUNTY	SHEET NO.	TOTAL SHEETS

As Constructed:
Witnesses to PC, Sta. 351+97.15 (Inbound)
PK Nail in 8" Cap, Pavt.
26" Oak - 136.87' - S. 55° W.
19" Oak - 121.40' - S. 84° W.
6" J. Pine - 137.84' - S. 15° W.

Witnesses to PC, Sta. 365+23.18 (S. Bound)
PK Nail in 8" Cap, Pavt.
15" Oak - 93.70' - S. 22° W.
13" Oak - 74.06' - S. 72° W.
6" Maple - 92.30' - N. 11° W.

Witnesses to RT, Sta. 373+03.54 (C. Bound)
PK Nail in 8" Cap, Pavt.
End Guard Post - 35.00' - S. 35° E.
End Guard Post - 44.97' - S. 35° E.
(All other witnesses available)

Surfacing Quantities
Temporary Connection for Service Rd.
Class B Shoulders - 67 Cys.
Aggregate Base Course - 234 Tons
Calcium Chloride Admixed - 0.7 Tons
Water (1000 gal. Unit) - 175 Gals.
Bituminous Prime Coat - 443 Gals.
Bituminous Material Applied - 490 Gals.
Cover Material Applied - 268 - 9 Tons
Cover Material Applied - 310 - 8 Tons

Surfacing Quantities
Temporary Connection
Class B Shoulders - 588 Cys.
Aggregate Base Course - 960 Tons
Calcium Chloride Admixed - 2.9 Tons
Water (1000 gal. Unit) - 0.6 Units
Bituminous Prime Coat - 443 Gals.
Bituminous Material Applied - 167 Tons
Bituminous Wearing Coat - 154 Tons.

Surfacing Quantities
Ramp D
Concrete Pavement 9" Unit - 2637 Syds.
Pavement Reinforcement - 2637 Syds.
Salvaged Subbase 22A - 22A
Aggregate Base Course - 1162 Tons
Calcium Chloride Admixed - 5.6 Tons
Water (1000 gal. Unit) - 1.6 Units
Bituminous Prime Coat - 212 Gals.
Bituminous Material Applied - 604 Gals.
Cover Material Applied - 268 - 20 Tons

Surfacing Quantities
Ex. US 27 reluc. Intersection
Aggregate Base Course - 134 Tons
Selected Subbase 22A - 63 Tons
Calcium Chloride Admixed - 0.8 Tons
Water (1000 gal. Unit) - 0.2 Units
Bituminous Prime Coat - 78 Gals.
Bituminous Material Applied - 20 Tons
Bituminous Wearing Coat - 19 Tons
Subbase - 335 Cys.
Chaul - 348 Comp. Cyl. M.

Surfacing Quantities
Pasture Lane
Class B Shoulders - 224 Cys.
Aggregate Base Course - 125 Tons
Calcium Chloride Admixed - 0.6 Tons
Water (1000 gal. Unit) - 0.1 Tons
Bituminous Prime Coat - 139 Gals.
Bituminous Material Applied - 36 Tons
Bituminous Wearing Coat - 33 Tons

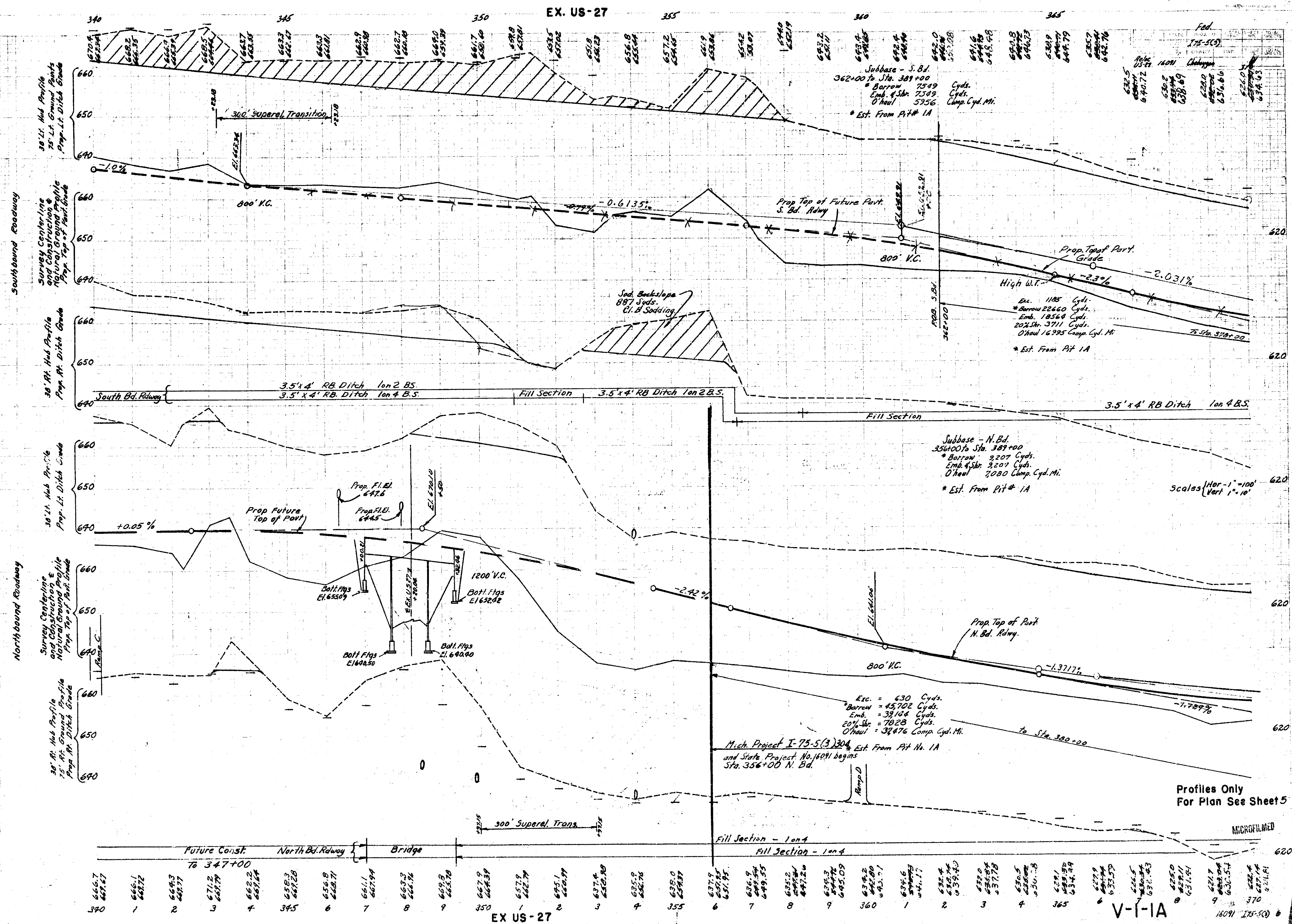
Surfacing Quantities
Pasture Lane
Class B Shoulders - 224 Cys.
Aggregate Base Course - 125 Tons
Calcium Chloride Admixed - 0.6 Tons
Water (1000 gal. Unit) - 0.1 Tons
Bituminous Prime Coat - 139 Gals.
Bituminous Material Applied - 36 Tons
Bituminous Wearing Coat - 33 Tons

Curve Data (Ramp D)
A=53° 05' 46"
D=7° 00' 00"
R=818.51'
T=408.58'
E=16.31'
L=737.92'
PC=161.30
PT=316.99+30.57 R
of Sta. 366+188.97 on Temp. N. Rd.
PT=316.99+30.57 R
of Sta. 366+188.97 on Temp. N. Rd.
P.O.B. Ramp D: Sta. 366+188.97 Ex. US 27 Reluc.
R.O.E. Ramp D: Sta. 366+188.97 Ex. US 27 Reluc.
Superal. 0.05' per ft.
Rotate about inside (RI)
edge of part

Curve Data (Temporary Connection)
A=54°
D=5°
R=1155.9'
T=583.9'
E=140.0'
L=1090.0'
PC=341.061
PT=349.700
PT=141.661
POB Temp. Conn. Sta. 0+00=
1091.70.27 Ex. US 27
POE Temp. Conn. Sta. 15+502=
366+00 S. Rd.
Superal. 0.05' per ft.
Rotate about inside (LI)
edge of part

PLAN ONLY FOR PROFILES
SEE SHEET 6

V-1-1A
16091, 175-50, 5



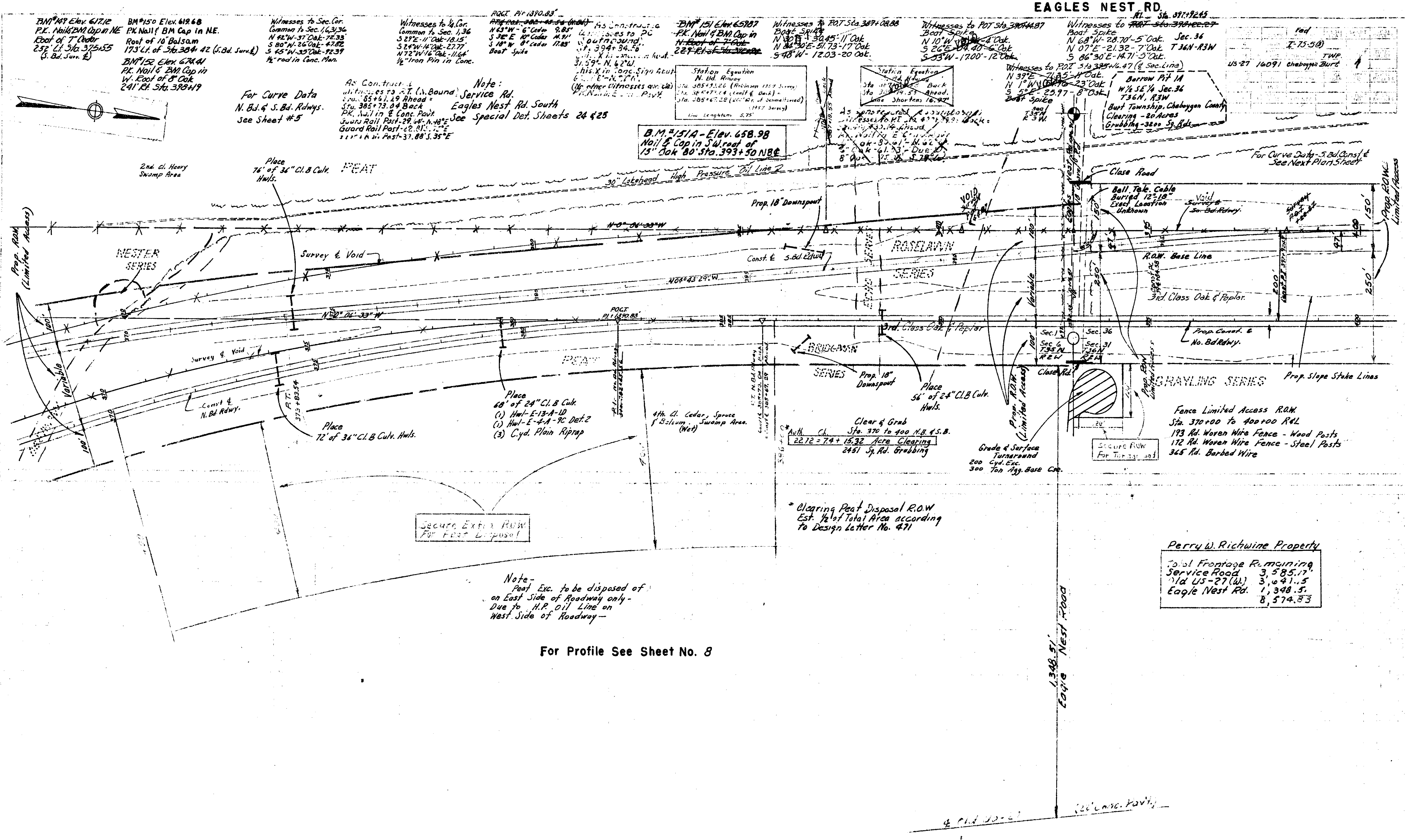
Profiles Only
For Plan See Sheet 5

MICROFILMED

V-7-1A

16071-01

16091 175-5(b)



BM#147 Elev. 617.12
P.K. Nail in BM Cap in NE
Foot of T. Oak
252' Lt. Sta. 375.555
(S. Bd. Jun. 2)

BM#150 Elev. 619.68
P.K. Nail in BM Cap in NE
Foot of 10 Balsam
173' Lt. of Sta. 384.42 (S. Bd. Jun. 2)

BM#152 Elev. 621.41
P.K. Nail in BM Cap in
W. Foot of 8' Oak
241' Rt. Sta. 398.19

Witnesses to Sec. Cor.
Common to Sec. 143/36
N 82°W-37' Oak-72.33'
S 80°W-26' Oak-47.82'
S 45°W-30' Oak-72.39'
1/2" rod in Conc. Man.

Witnesses to 1/4 Cor.
Common to Sec. 136
S 82°E-11' Oak-18.15'
S 75°W-14' Oak-27.77'
N 72°W-16' Oak-11.64'
1/2" Iron Pin in Conc.

Note:
As Contractor &
Witnesses to R.T. (N. Bound) Service Rd.
Eagles Nest Rd. South
See Special Det. Sheets 24 & 25

Station Equation
N. Bd. Rdway
Sta. 385+73.04 Back
Sta. 385+73.04 (Point of Intersection)
Sta. 385+73.04 (Point of Beginning)
Line Length 5.75'

BM#151 Elev. 650.77
P.K. Nail in BM Cap in
N. Foot of 7' Oak
227' Rt. Sta. 394.55

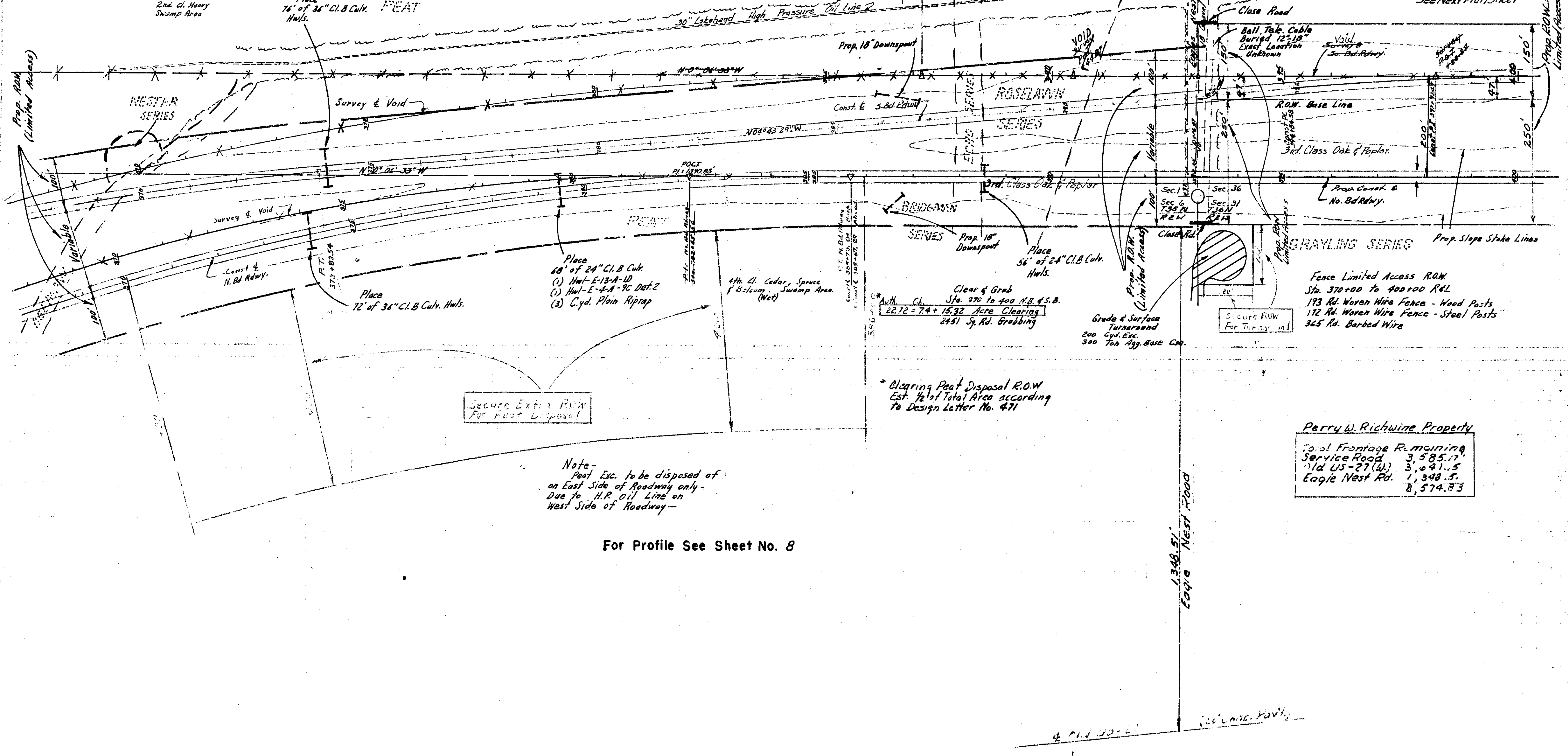
Station Equation
N. Bd. Rdway
Sta. 385+73.04 Back
Sta. 385+73.04 (Point of Intersection)
Sta. 385+73.04 (Point of Beginning)
Line Length 5.75'

Witnesses to R.T. Sta. 387+08.88
Dodge Spike
N 82°E-30' Oak-11' Oak
N 84°E-51' Oak-17' Oak
S 48°W-12.03-20' Oak

Witnesses to R.T. Sta. 390+48.7
Dodge Spike
N 10°W-10' Oak-1' Oak
S 20°E-14' Oak-6' Oak
S 23°W-12' Oak-12' Oak

Witnesses to R.T. Sta. 394+48.7
Dodge Spike
N 10°W-10' Oak-1' Oak
S 20°E-14' Oak-6' Oak
S 23°W-12' Oak-12' Oak

Witnesses to R.T. Sta. 394+48.7
Dodge Spike
N 10°W-10' Oak-1' Oak
S 20°E-14' Oak-6' Oak
S 23°W-12' Oak-12' Oak



2nd. Cl. Heavy
Swamp Area

Place
76' of 36" CLB Culv. Hwls.

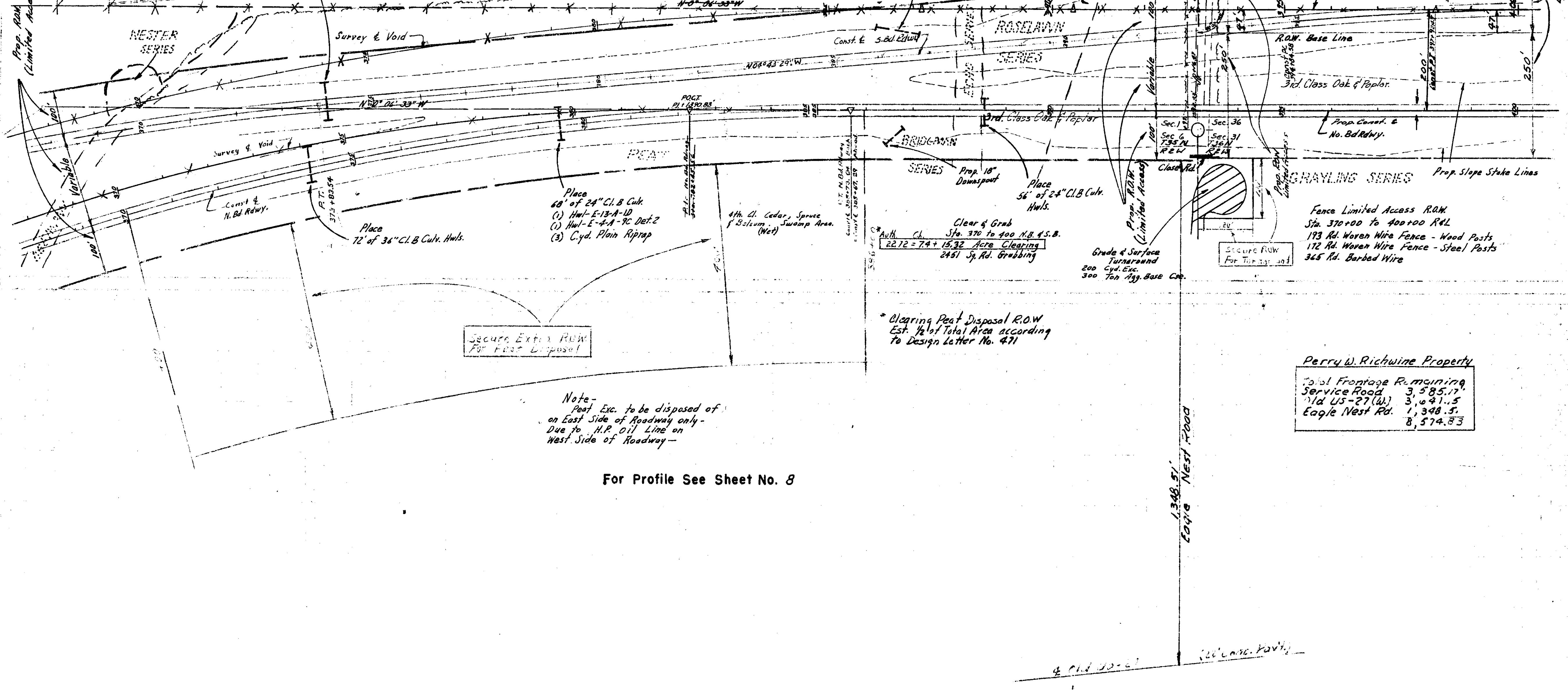
For Curve Data
N. Bd. & S. Bd. Rdways
See Sheet #5

Note:
As Contractor &
Witnesses to R.T. (N. Bound) Service Rd.
Eagles Nest Rd. South
See Special Det. Sheets 24 & 25

Station Equation
N. Bd. Rdway
Sta. 385+73.04 Back
Sta. 385+73.04 (Point of Intersection)
Sta. 385+73.04 (Point of Beginning)
Line Length 5.75'

Witnesses to R.T. Sta. 387+08.88
Dodge Spike
N 82°E-30' Oak-11' Oak
N 84°E-51' Oak-17' Oak
S 48°W-12.03-20' Oak

Witnesses to R.T. Sta. 390+48.7
Dodge Spike
N 10°W-10' Oak-1' Oak
S 20°E-14' Oak-6' Oak
S 23°W-12' Oak-12' Oak



Prop. Rdway
(Limited Access)

Survey & Void

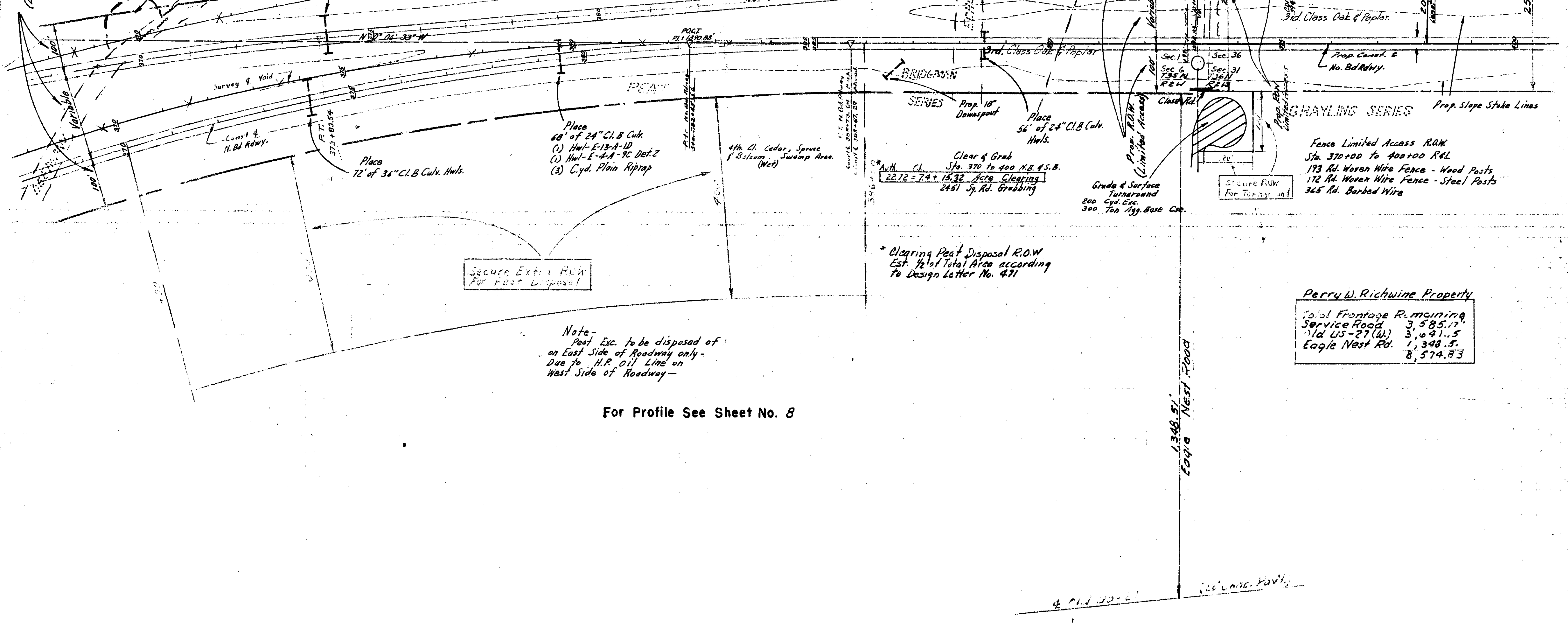
Place
76' of 36" CLB Culv. Hwls.

Place
68' of 24" CLB Culv. Hwls.
(1) Hwt-E-13-A-10
(2) Hwt-E-4-A-9C Det. 2
(3) Cyd. Plain Riprap

Place
56' of 24" CLB Culv. Hwls.

Place
56' of 24" CLB Culv. Hwls.

Place
56' of 24" CLB Culv. Hwls.



Prop. Rdway
(Limited Access)

Survey & Void

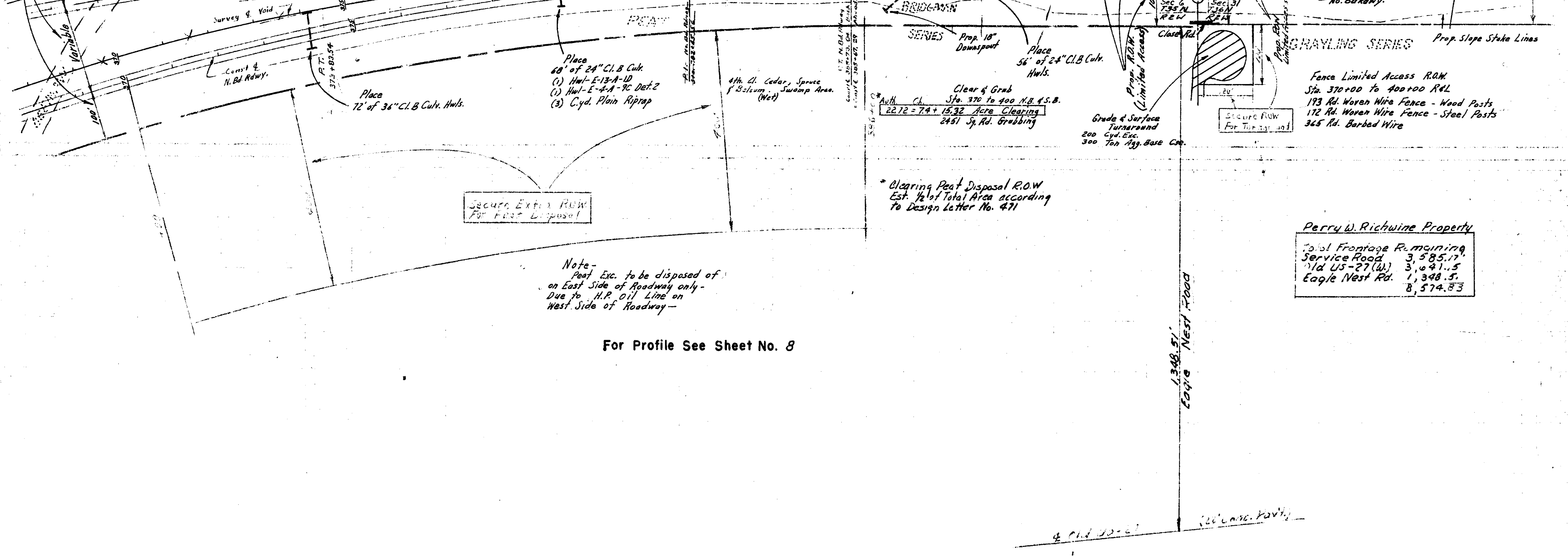
Place
76' of 36" CLB Culv. Hwls.

Place
68' of 24" CLB Culv. Hwls.
(1) Hwt-E-13-A-10
(2) Hwt-E-4-A-9C Det. 2
(3) Cyd. Plain Riprap

Place
56' of 24" CLB Culv. Hwls.

Place
56' of 24" CLB Culv. Hwls.

Place
56' of 24" CLB Culv. Hwls.



Prop. Rdway
(Limited Access)

Survey & Void

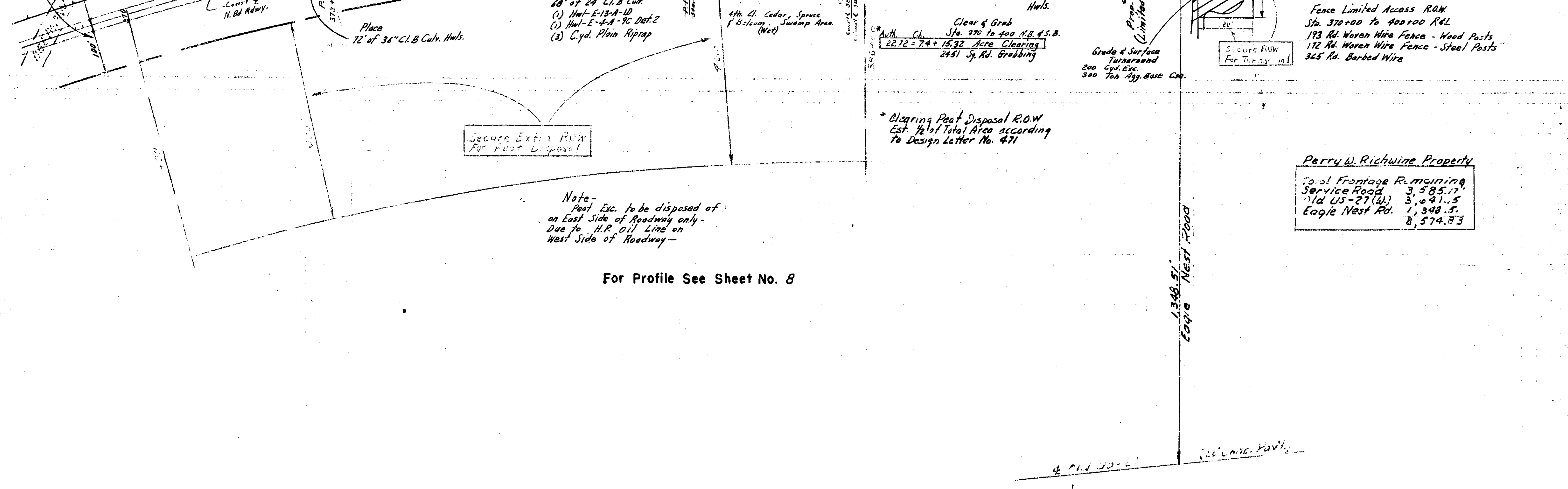
Place
76' of 36" CLB Culv. Hwls.

Place
68' of 24" CLB Culv. Hwls.
(1) Hwt-E-13-A-10
(2) Hwt-E-4-A-9C Det. 2
(3) Cyd. Plain Riprap

Place
56' of 24" CLB Culv. Hwls.

Place
56' of 24" CLB Culv. Hwls.

Place
56' of 24" CLB Culv. Hwls.



Prop. Rdway
(Limited Access)

Survey & Void

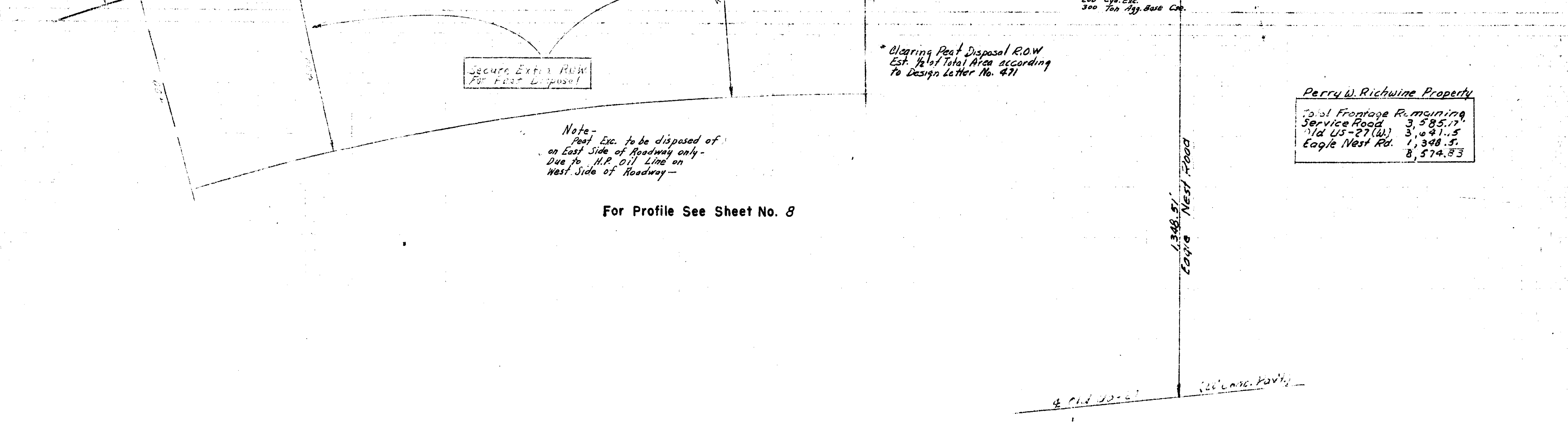
Place
76' of 36" CLB Culv. Hwls.

Place
68' of 24" CLB Culv. Hwls.
(1) Hwt-E-13-A-10
(2) Hwt-E-4-A-9C Det. 2
(3) Cyd. Plain Riprap

Place
56' of 24" CLB Culv. Hwls.

Place
56' of 24" CLB Culv. Hwls.

Place
56' of 24" CLB Culv. Hwls.



Prop. Rdway
(Limited Access)

Survey & Void

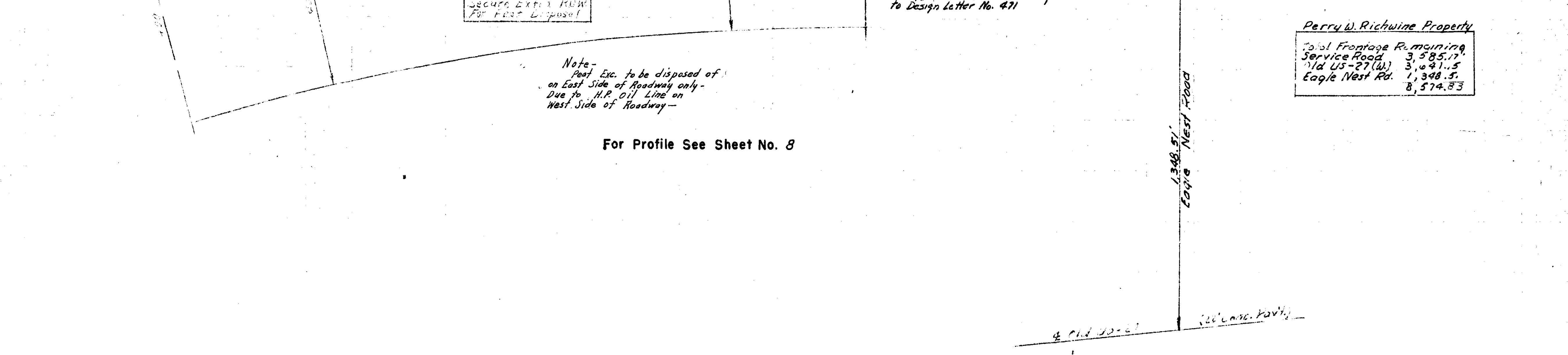
Place
76' of 36" CLB Culv. Hwls.

Place
68' of 24" CLB Culv. Hwls.
(1) Hwt-E-13-A-10
(2) Hwt-E-4-A-9C Det. 2
(3) Cyd. Plain Riprap

Place
56' of 24" CLB Culv. Hwls.

Place
56' of 24" CLB Culv. Hwls.

Place
56' of 24" CLB Culv. Hwls.



Prop. Rdway
(Limited Access)

Survey & Void

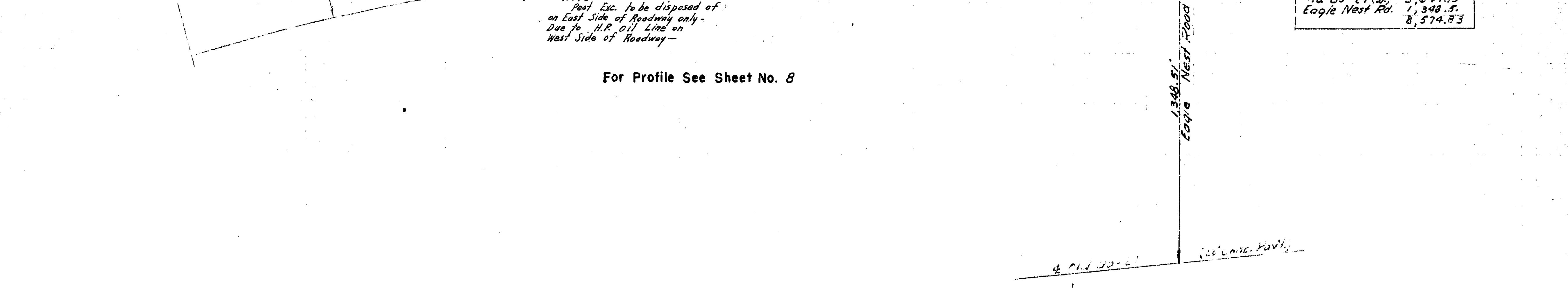
Place
76' of 36" CLB Culv. Hwls.

Place
68' of 24" CLB Culv. Hwls.
(1) Hwt-E-13-A-10
(2) Hwt-E-4-A-9C Det. 2
(3) Cyd. Plain Riprap

Place
56' of 24" CLB Culv. Hwls.

Place
56' of 24" CLB Culv. Hwls.

Place
56' of 24" CLB Culv. Hwls.



Prop. Rdway
(Limited Access)

Survey & Void

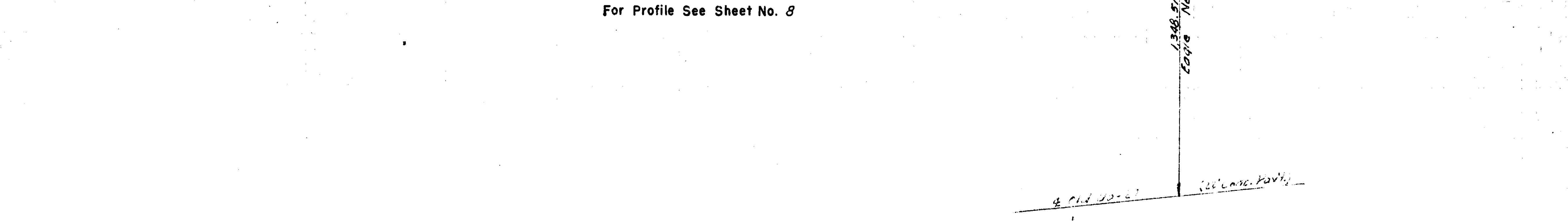
Place
76' of 36" CLB Culv. Hwls.

Place
68' of 24" CLB Culv. Hwls.
(1) Hwt-E-13-A-10
(2) Hwt-E-4-A-9C Det. 2
(3) Cyd. Plain Riprap

Place
56' of 24" CLB Culv. Hwls.

Place
56' of 24" CLB Culv. Hwls.

Place
56' of 24" CLB Culv. Hwls.



Prop. Rdway
(Limited Access)

Survey & Void

Place
76' of 36" CLB Culv. Hwls.

Place
68' of 24" CLB Culv. Hwls.
(1) Hwt-E-13-A-10
(2) Hwt-E-4-A-9C Det. 2
(3) Cyd. Plain Riprap

Place
56' of 24" CLB Culv. Hwls.

Place
56' of 24" CLB Culv. Hwls.

Place
56' of 24" CLB Culv. Hwls.



Prop. Rdway
(Limited Access)

Survey & Void

Place
76' of 36" CLB Culv. Hwls.

Place
68' of 24" CLB Culv. Hwls.
(1) Hwt-E-13-A-10
(2) Hwt-E-4-A-9C Det. 2
(3) Cyd. Plain Riprap

Place
56' of 24" CLB Culv. Hwls.

Place
56' of 24" CLB Culv. Hwls.

Place
56' of 24" CLB Culv. Hwls.



Prop. Rdway
(Limited Access)

Survey & Void

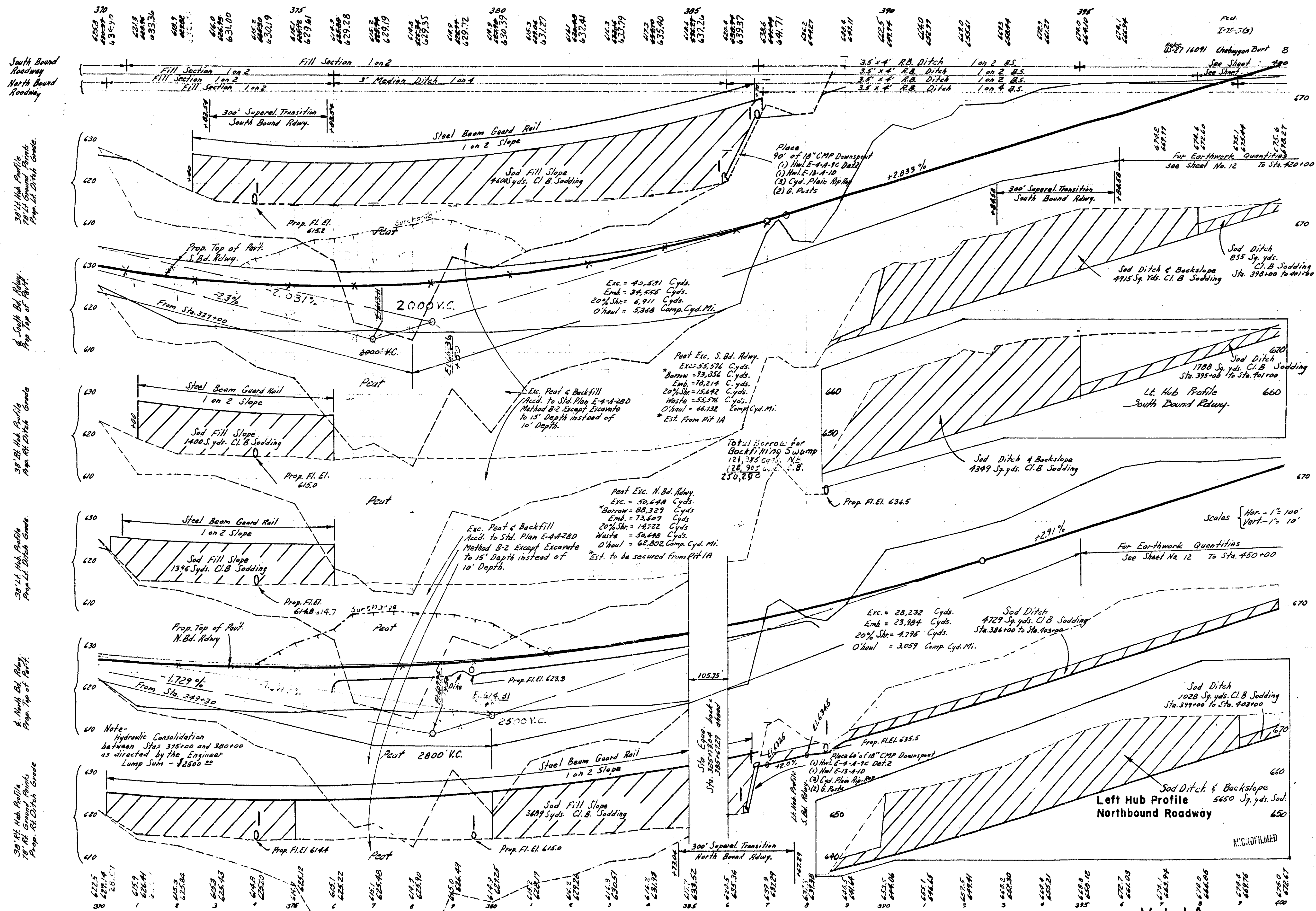
Place
76' of 36" CLB Culv. Hwls.

Place
68' of 24" CLB Culv. Hwls.
(1) Hwt-E-13-A-10
(2) Hwt-E-4-A-9C Det. 2
(3) Cyd. Plain Riprap

Place
56' of 24" CLB Culv. Hwls.

Place
56' of 24" CLB Culv. Hwls.

Place
56' of 24" CLB Culv. Hwls.



South Bound Roadway
North Bound Roadway

38.44 Hub Profile
78.44 Ground Profile
Prop. At Ditch Grade

38.44 Hub Profile
78.44 Ground Profile
Prop. At Ditch Grade

38.44 Hub Profile
78.44 Ground Profile
Prop. At Ditch Grade

38.44 Hub Profile
78.44 Ground Profile
Prop. At Ditch Grade

38.44 Hub Profile
78.44 Ground Profile
Prop. At Ditch Grade

38.44 Hub Profile
78.44 Ground Profile
Prop. At Ditch Grade

38.44 Hub Profile
78.44 Ground Profile
Prop. At Ditch Grade

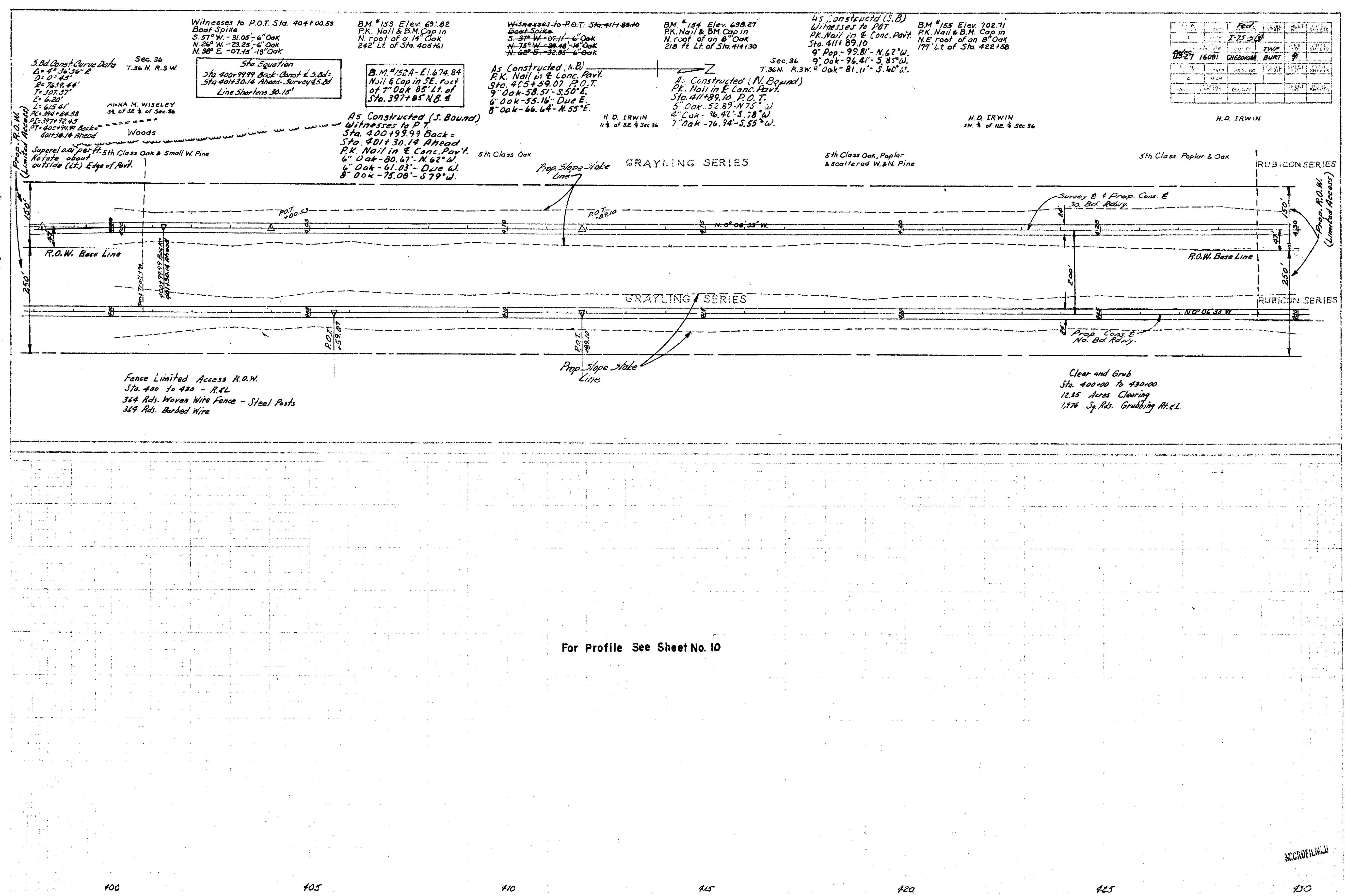
Note:
Hydraulic Consolidation
between Stas 375+00 and 380+00
as directed by the Engineer
Lump Sum - \$2500.00

V-1-1A
16091-01

16091-1550 8

DATE	10-25-59
BY	D.D.
CHECKED	W.D.
APPROVED	

4-5-59
 L.S.F.
 J.C.
 3-57
 3-57
 3-57
 B.M. & Wires C.R.D. 5-59
 A.D.

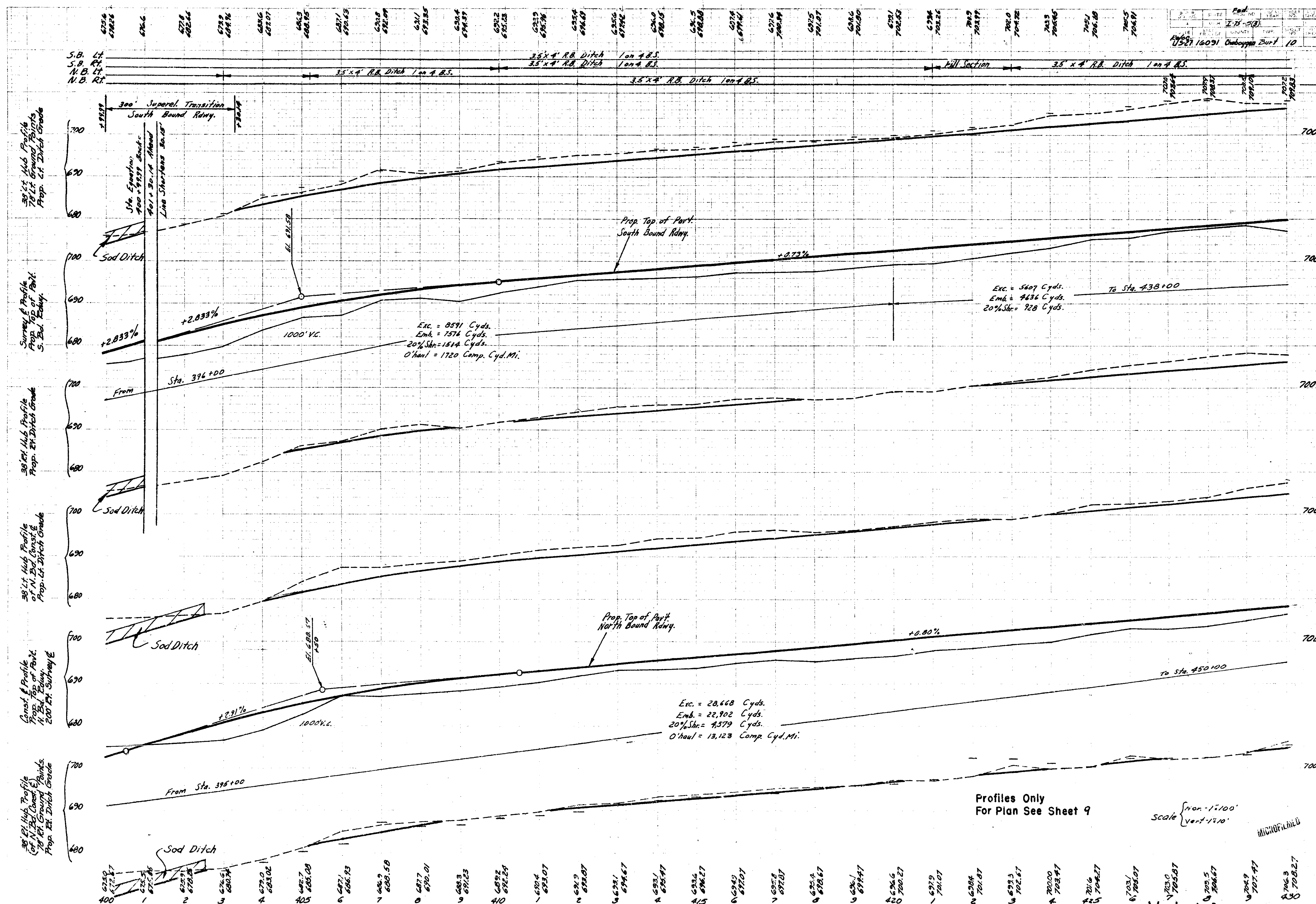


For Profile See Sheet No. 10

NO.	DATE	BY	CHECKED	APPROVED
1527	16091	CHEBOKA	BURT	
1527	16091	CHEBOKA	BURT	
1527	16091	CHEBOKA	BURT	
1527	16091	CHEBOKA	BURT	

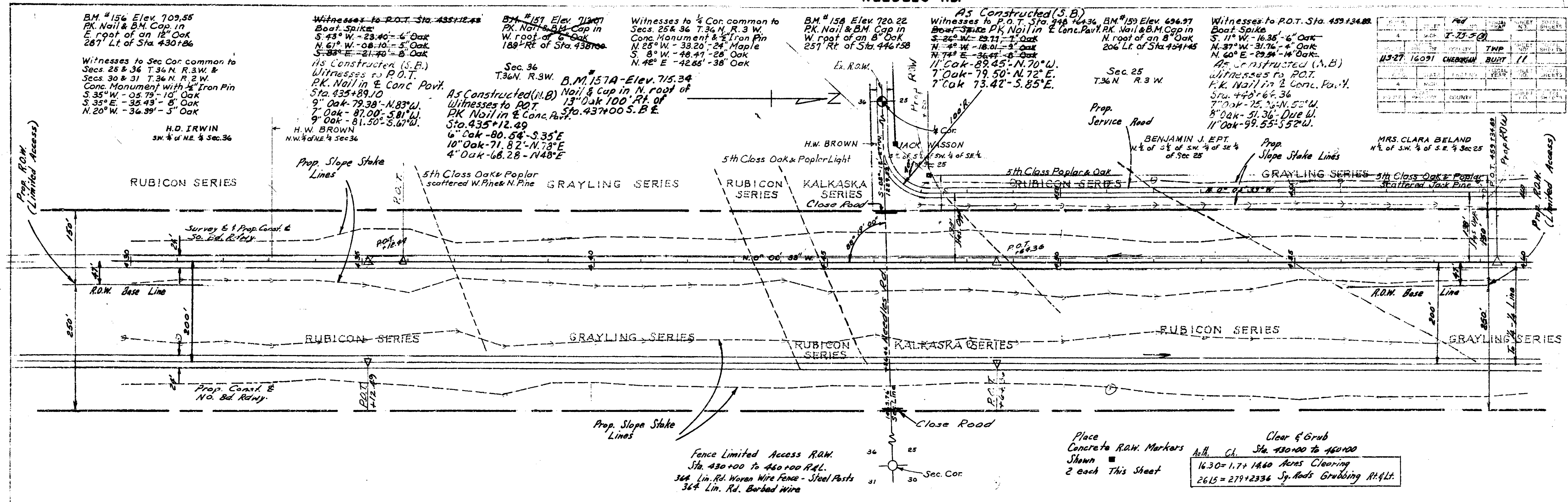
V-1-1A
 16091 I-75-50 9
 16091-01

Plan - Lawrence 2-58



V-1-1A
16091-1
16091 I-155(3) 10

NEEDLES RD.



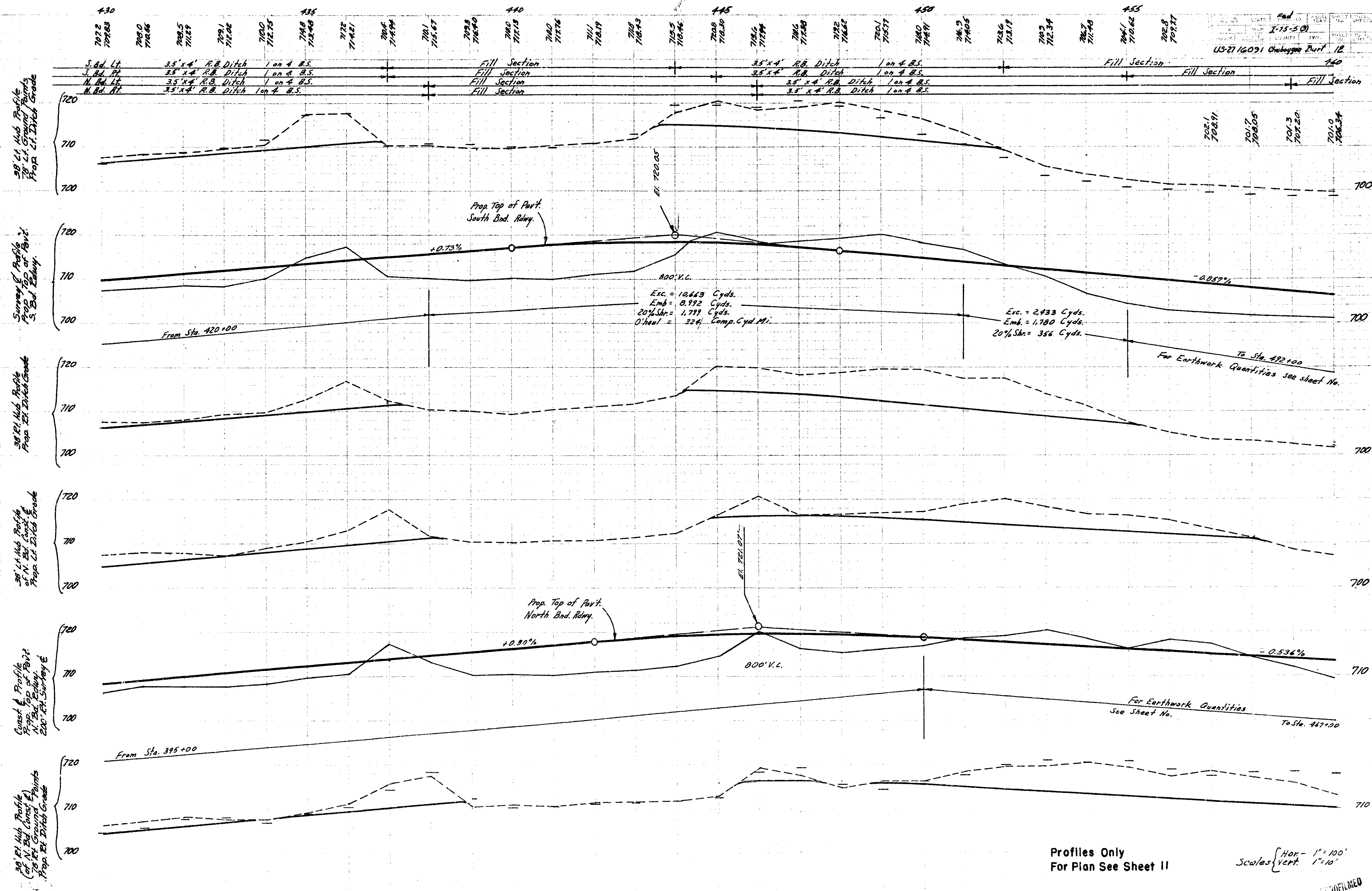
For Profile See Sheet No. 12

NEEDLES RD

V-1-1A

10071-C1

MICROFILMED



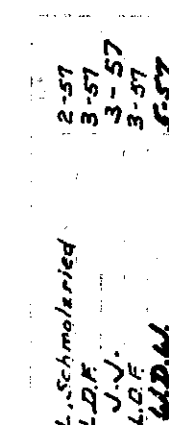
Profiles Only
 For Plan See Sheet II

Scales: Hor - 1" = 100'
 Vert - 1" = 10'

UNFILMED

V-1-1A
 16091-11

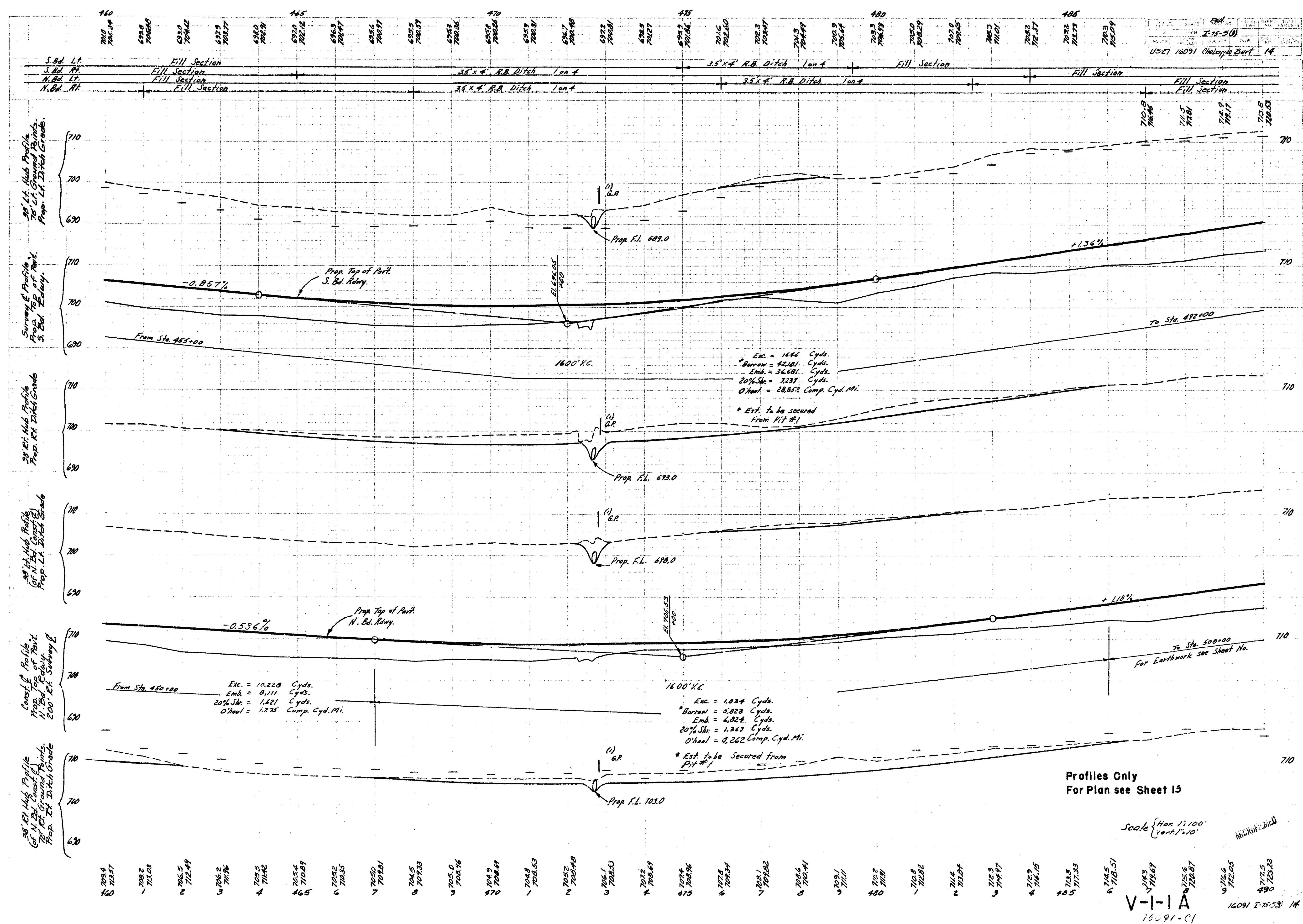
16091 I-15-50 12

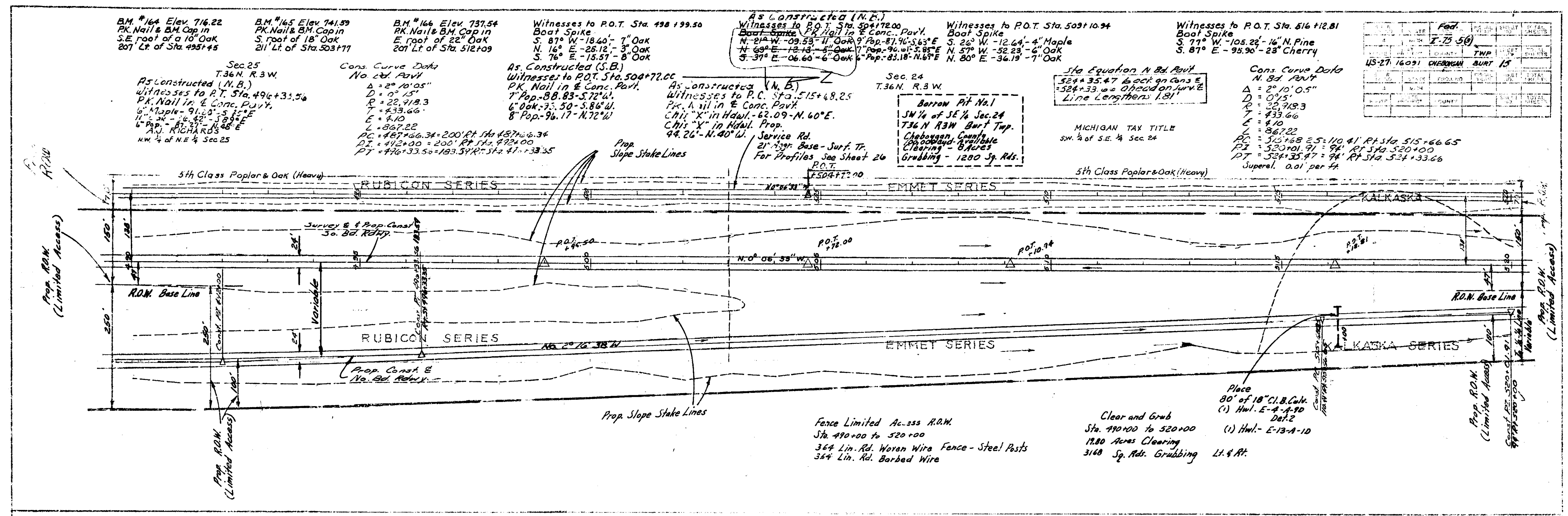


MICROFILM

V-1-1A
16091-C1

16091 I-75-NV-L





For Profiles See Sheet No. 16

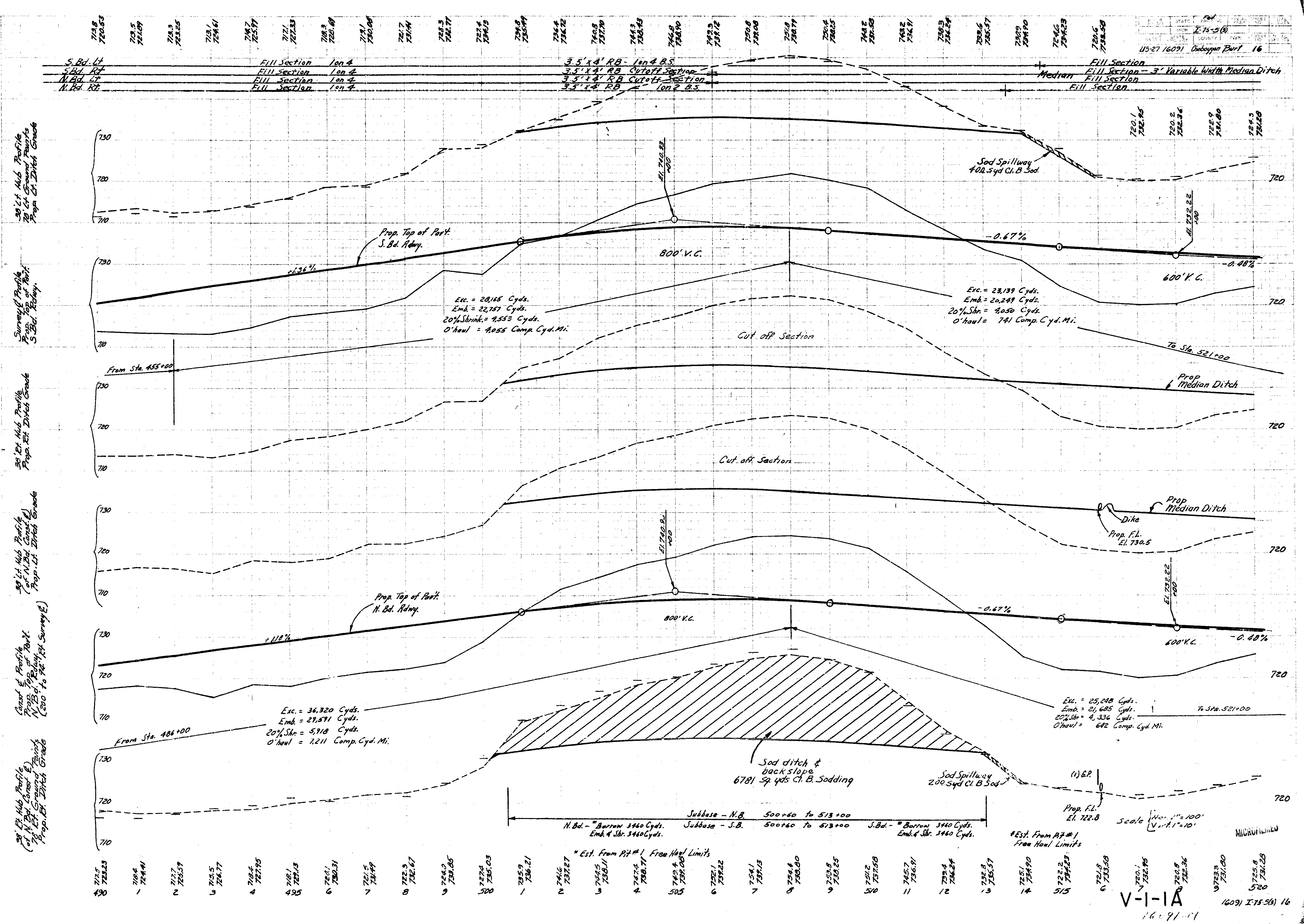
MICROFILMED

V-1-1A

16091-1

16091-15

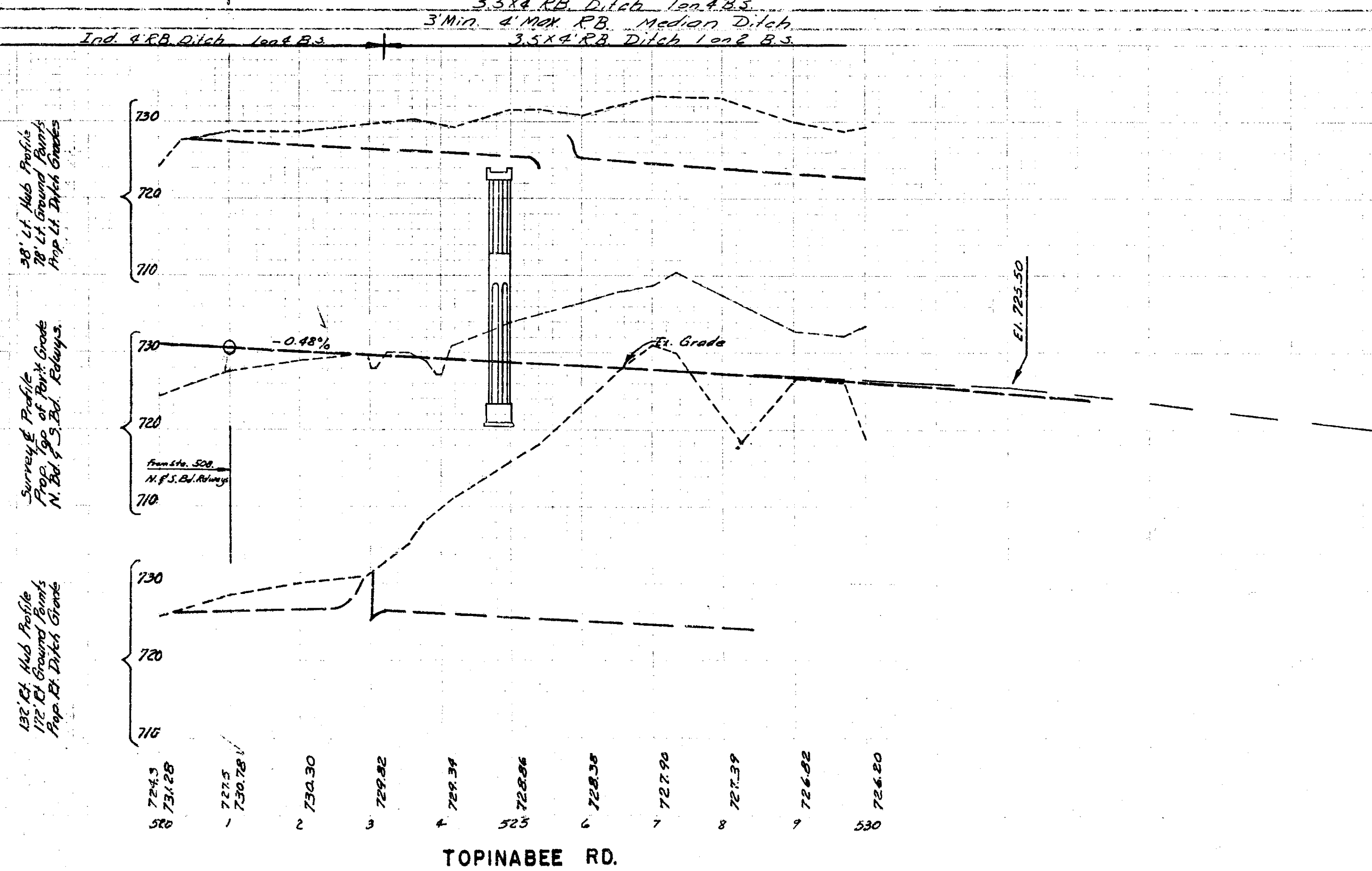
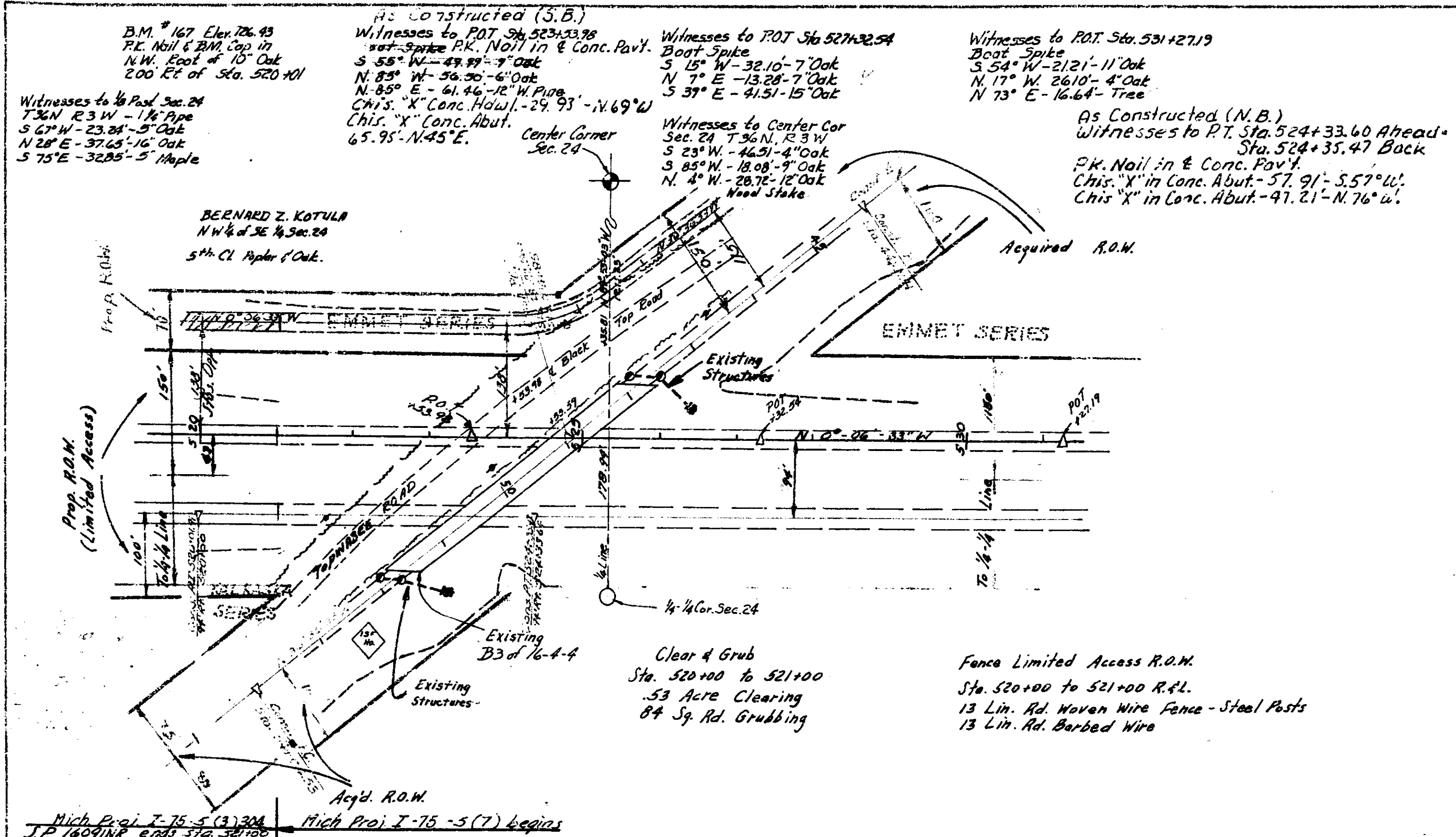
File 1-1-1A



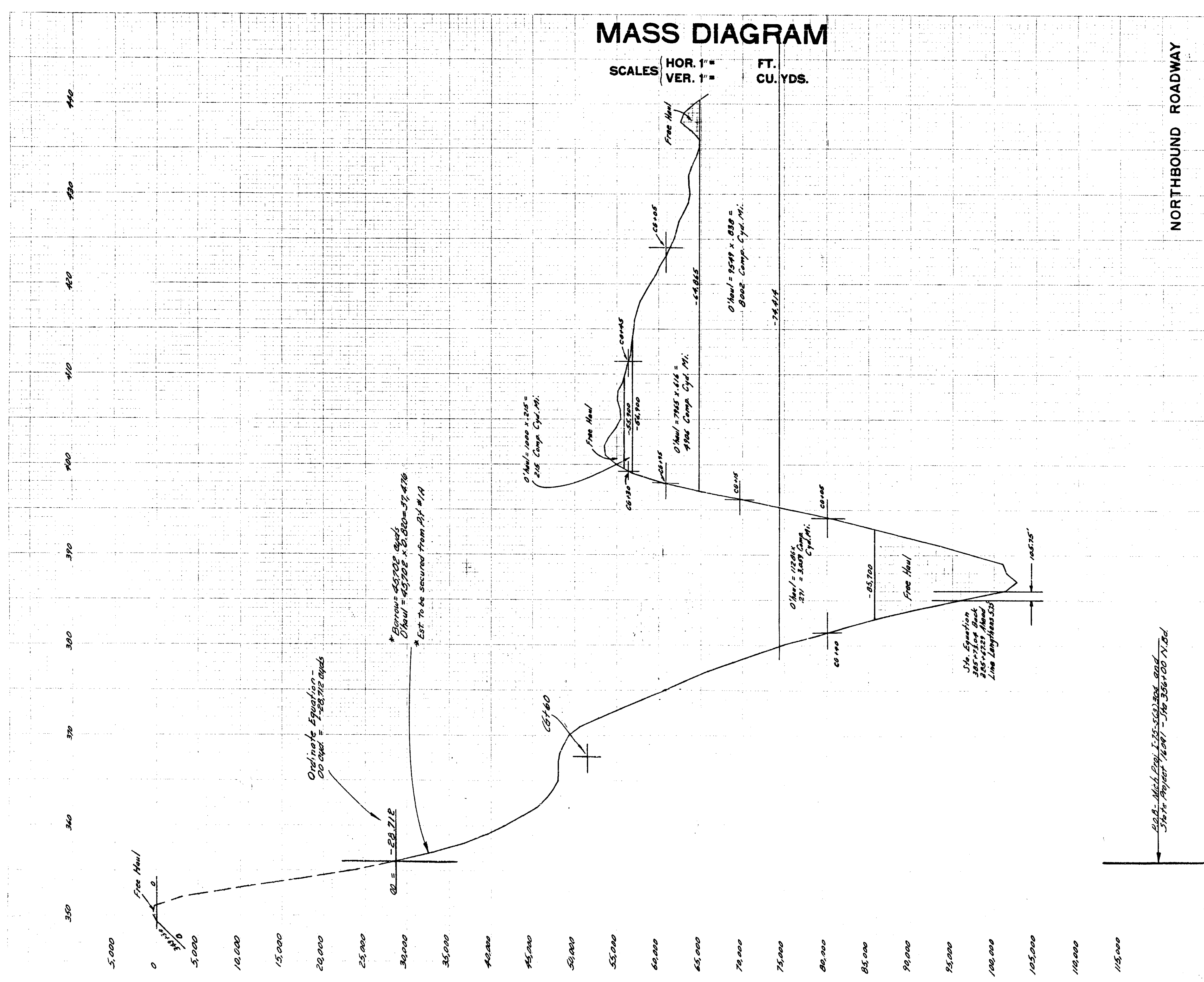
V-1-1A

16091 I-15-56 16

TOPINABEE RD.



DRAWN BY
 L. J. Lawrence
 11/59
 CHECKED BY
 G. K. S. S.
 11/59



V-I-1A
 16091-1-1

Scales
 Hor. 1" = 500 Ft.
 Vert. 1" = 5000 C.y.s.

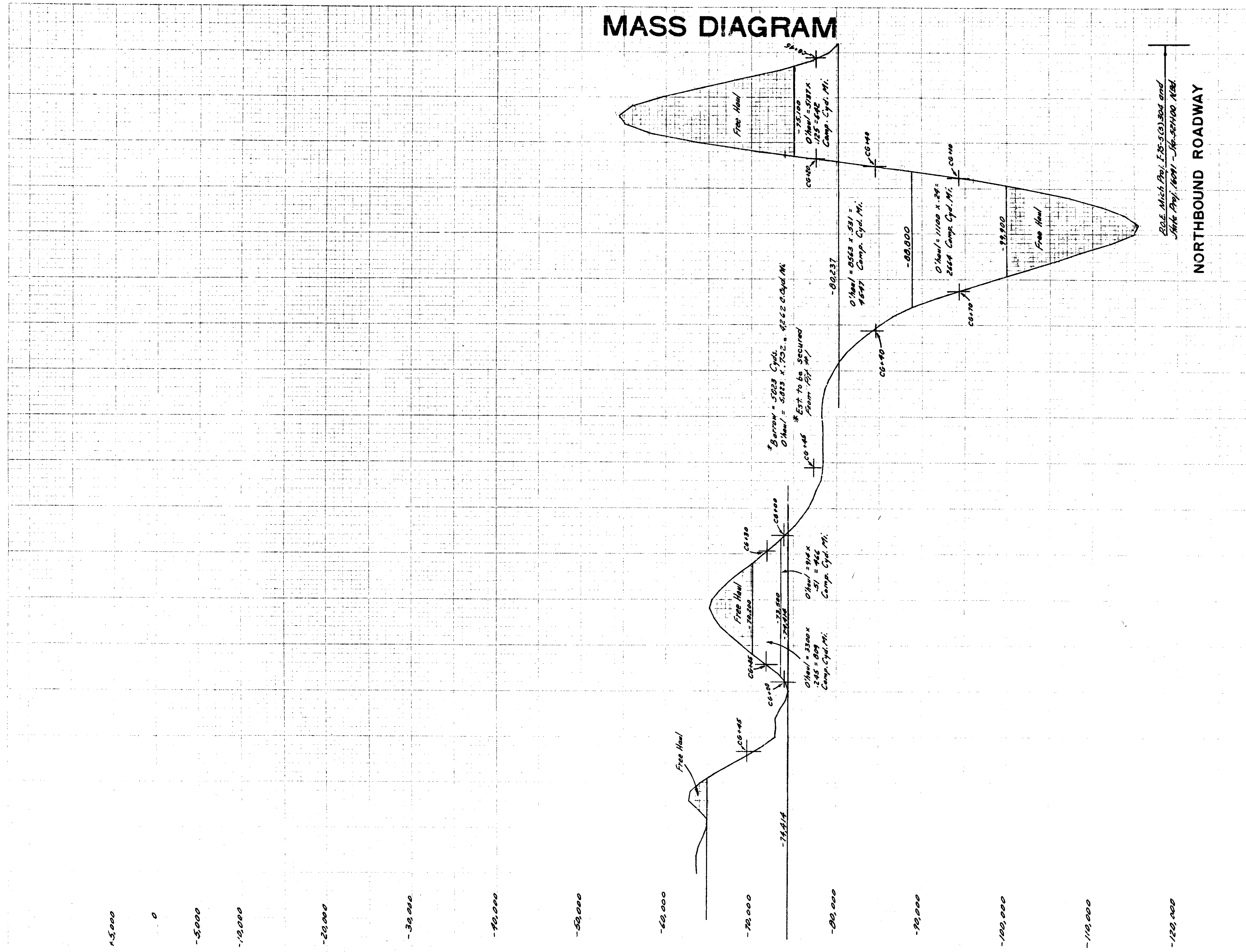
N.Bd. Rehy.
 16091
 3459+30 to 521+00

16091 1-15-5 (B) 18

FED.		STATE		COUNTY		TOWNSHIP		SECTION	
16091	1-15-5 (B)	16091	1-15-5 (B)	16091	1-15-5 (B)	16091	1-15-5 (B)	16091	1-15-5 (B)
16091	1-15-5 (B)	16091	1-15-5 (B)	16091	1-15-5 (B)	16091	1-15-5 (B)	16091	1-15-5 (B)

PREPARED BY: L. H. Lawrence 10/57
 CHECKED BY: C. H. G. G. 11/57
 DRAWN BY: C. H. G. G. 11/57

MASS DIAGRAM



DATE	BY	CHKD	APP'D
10-27-57	16091	10/27/57	10/27/57
11-19-57	16091	11/19/57	11/19/57

20.E. Mich. Proj. I-75-5(3) 304 and
 State Proj. 16091 - 16-50100 N.W.

NORTHBOUND ROADWAY

Scales
 Hor. 1" = 500' Ht.
 Vert. 1" = 5,000 C. Yds.

N. Bd. Rchwy.
 16091
 349+30 to 521+00

V-1-1A

16091 I-75-5(3) 19

SCALES { HOR. 1" = 500 FT.
VER. 1" = 5,000 CU. YDS.

SCALES { HOR. 1" = 500 FT.
VER. 1" = 5,000 CU. YDS.

Borrow = 22,660 cu yds
O'haul = 22,660 x 0.750 = 16,995 c. yds. Mi.

*Est from Pit 1A

Ordinate Equation
 $+22,660 \text{ cyps} = 0 \text{ cyps}$ - This Project

Sta. Equation
400 + 99.99 Back =
401 + 30.14 Ahead
Line Shortens 30.15

O'houl 1250 x .27 = 338 Comp. Cyd. Mi.

O'haul 2400 x .135 = 324 Comp. Cyd. Mi.

O'haul $2,450 \times .564 = 1382$ Comp. Cyd. Mi.

O'houl 5000 x .512 =
2560 Comp. Cyd. Mi.

O'houl 11,700 x .24 =
2808 Comp. Cyd. Mi.

-16,700

Free Haul

P.O. 8 Mich. Project I-75-5(3) 304
State Project 16091 Sta. 362+00.5 Bdl.

SOUTHBOUND ROADWAY

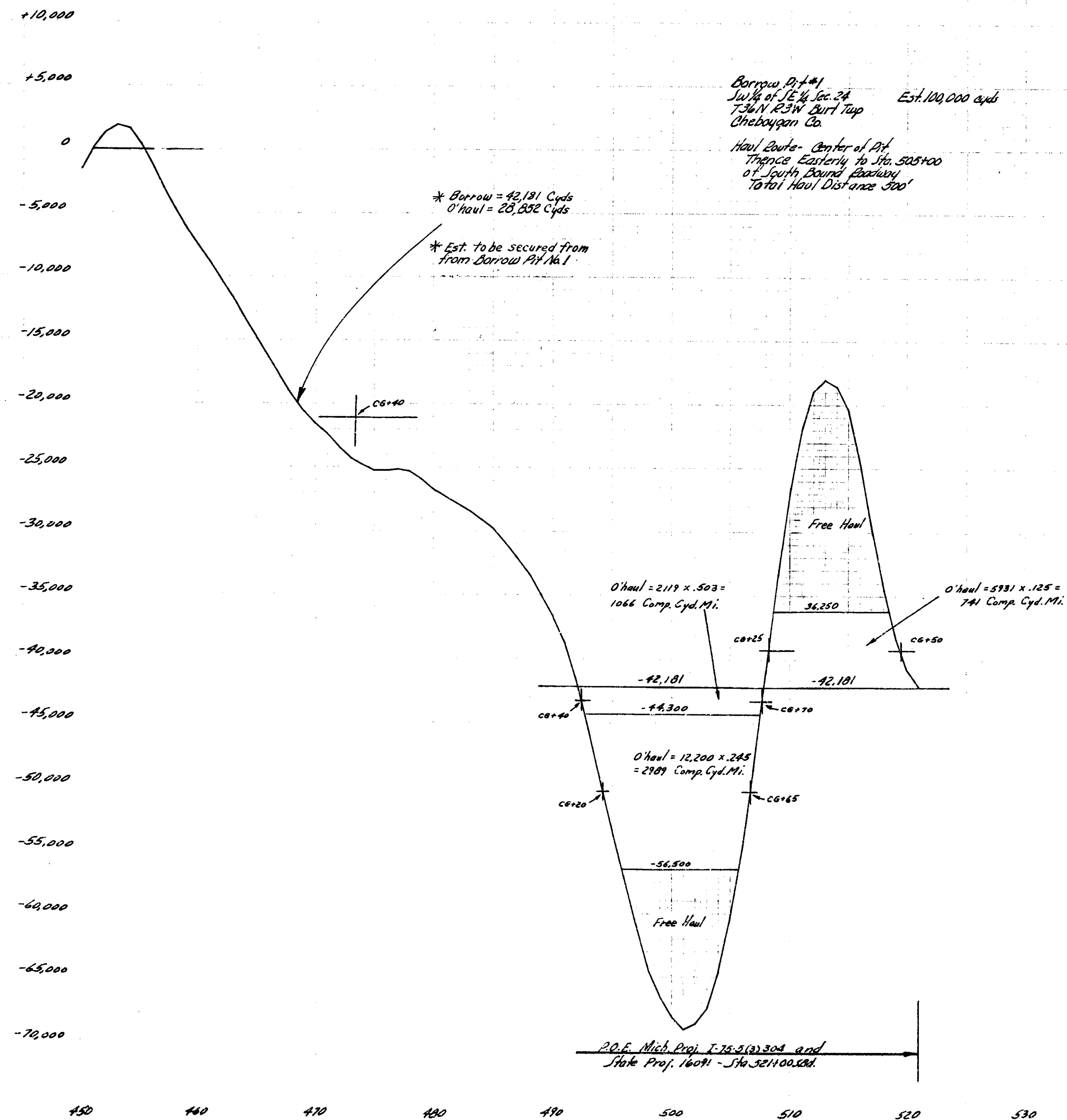
V-1-1A⁴⁷⁰

480
16091 I-75-5(3) 20

MASS DIAGRAM

SCALES (HOR. 1" = 500 FT.
VER. 1" = 5,000 CU. YDS.

Fed.
I-75-S(1)
US-27 16091 Cheboygan Burt 21



SOUTHBOUND ROADWAY

V-1-1A
16091-01

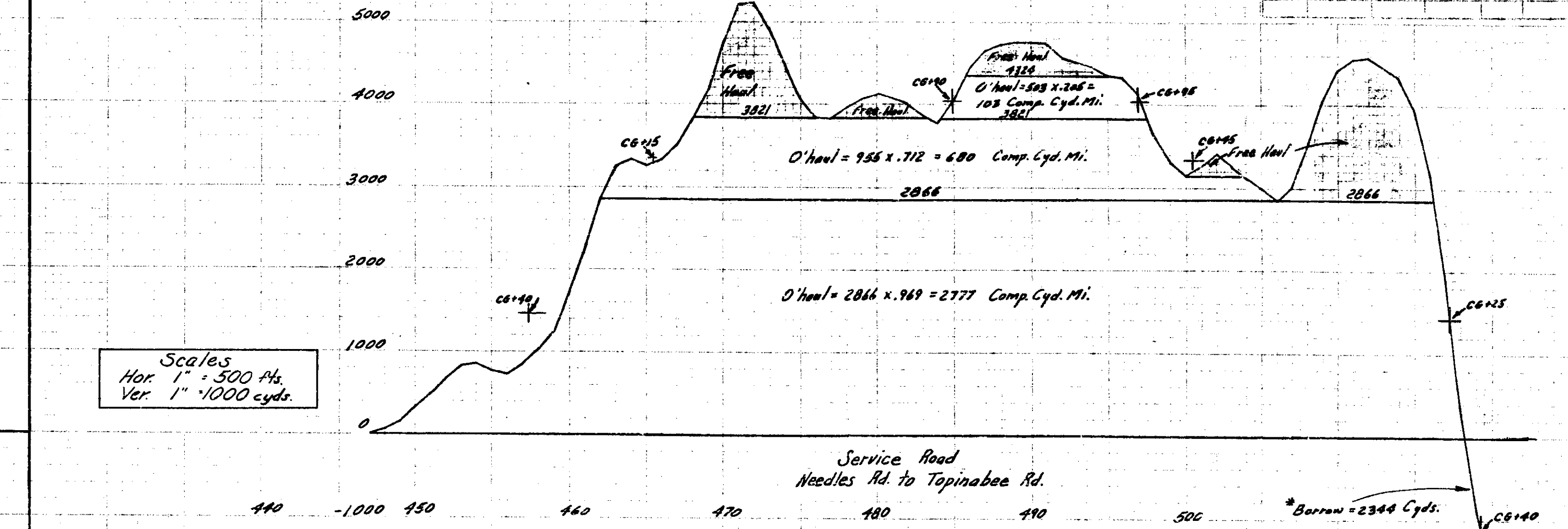
16091 I-75-S(1) 21

175-5(3)	22
US-27 16091	Chapman Burt

MASS DIAGRAM

SCALES (HOR. 1" = See FT.
VER. 1" = Below CU. YDS.

Scales
Hor. 1" = 500 Ft.
Ver. 1" = 1000 Cyds.



* Borrow = 2344 Cyds.
O'haul = 2344 x .531 = 1245 Comp. Cyd. Mi.

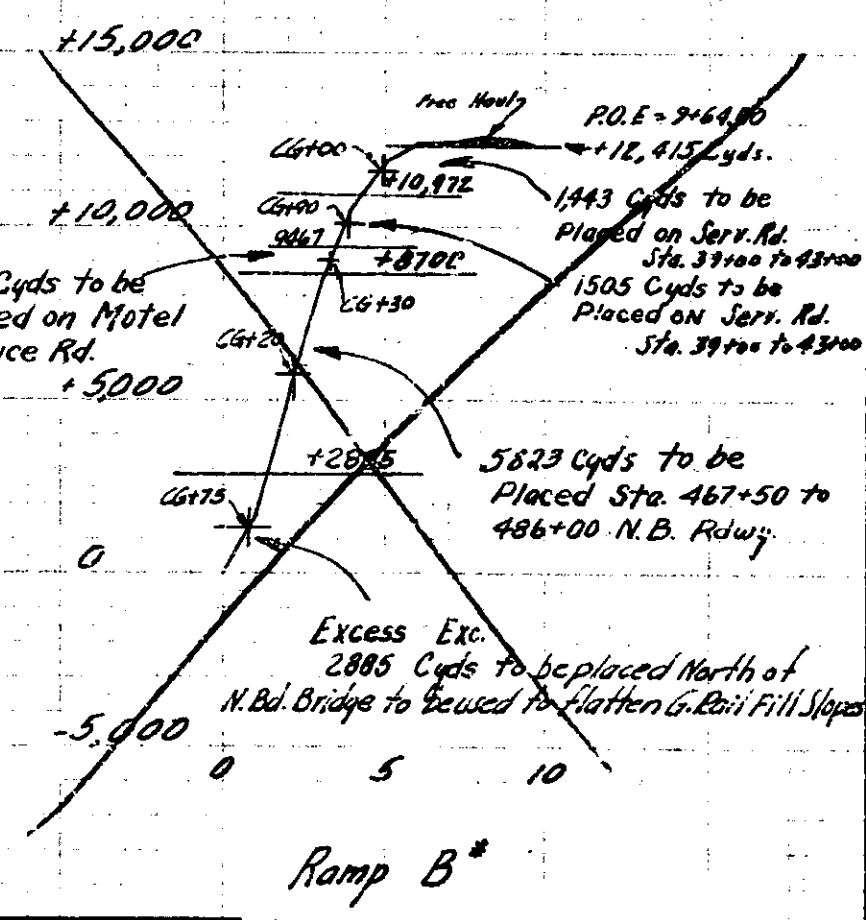
* Borrow = 5897 Cyds.
O'haul = 5897 x .923 = 5443 C. Cyd. Mi.
* To be secured from Pit #1

This Diagram Void

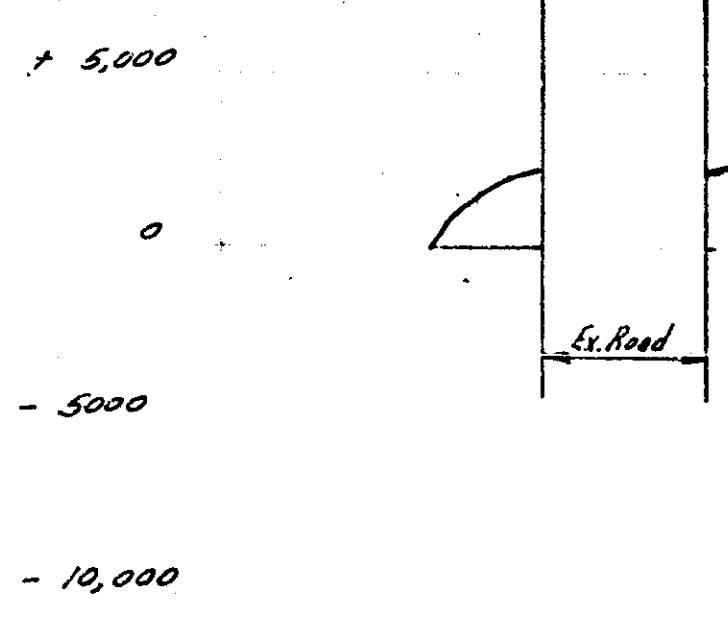
* Borrow = 757 Cyds
O'haul = 757 x .799 = 605 Comp. Cyd. Mi.
* To be secured from Excess Exc. Right of Way

Ramp D*

Service Road*
Ex. US-27 to (Motel & 18' Road)



Scales
* Hor. 1" = 500 Ft.
Ver. 1" = 5,000 Cyds.



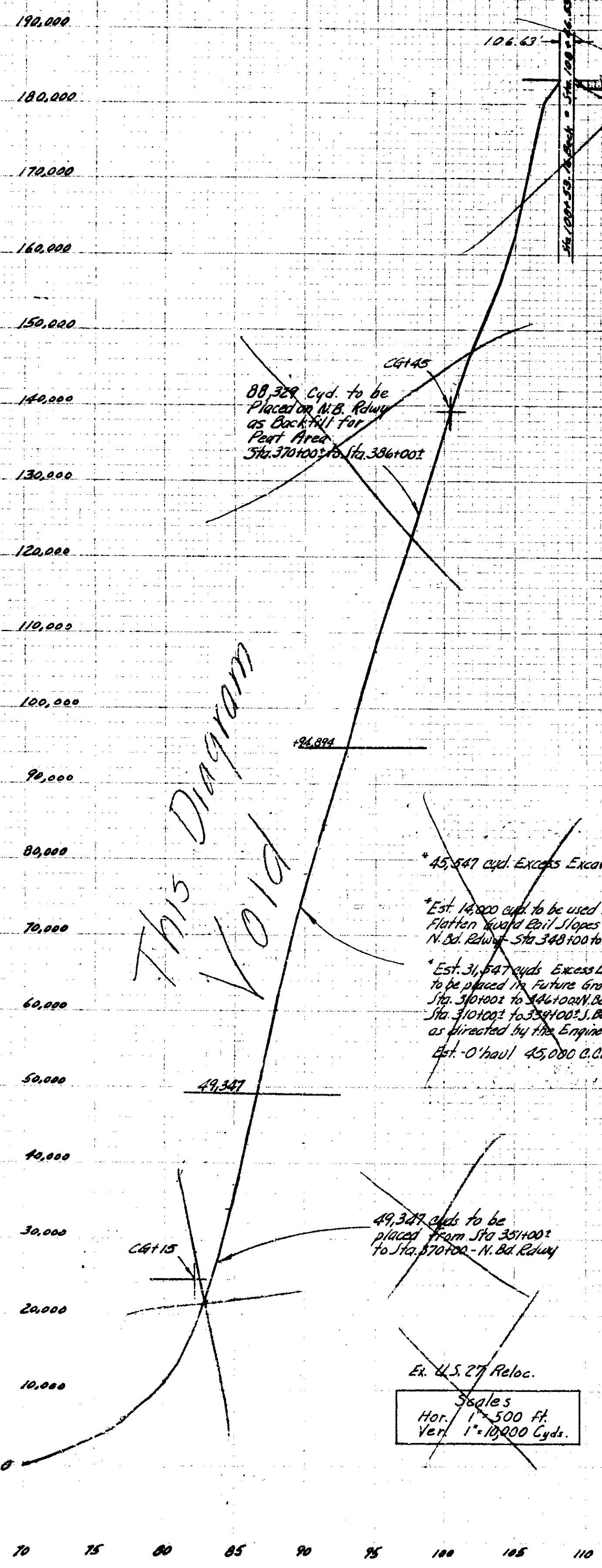
* Borrow = 950 Cyds
O'haul = 950 x .920 = 874 Comp. Cyd. Mi.
* To be secured from Pit #1A

1374 x .748 = 1043 C. Cyd. Mi.
1458 x .521 = 760 C. Cyd. Mi.
2400 x .225 = 540 C. Cyd. Mi.

Service Roads - Ramp

V-1-1A

16091-01



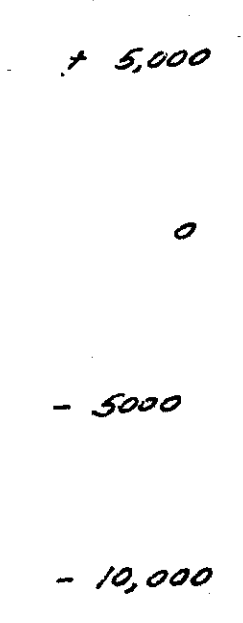
This Diagram Void

* 45,547 Cyds. Excess Excavation
* Est. 14,800 Cyds. to be used to Flatten Road Bed Slopes on N.B. Rdwy Sta. 348+00 to 359+40
* Est. 31,547 Cyds. Excess Exc. to be placed in Future Grade Sta. 350+00 to 364+00 N.B. Rd. as directed by the Engineer
Est. O'haul 45,000 C. Cyd. Mi.

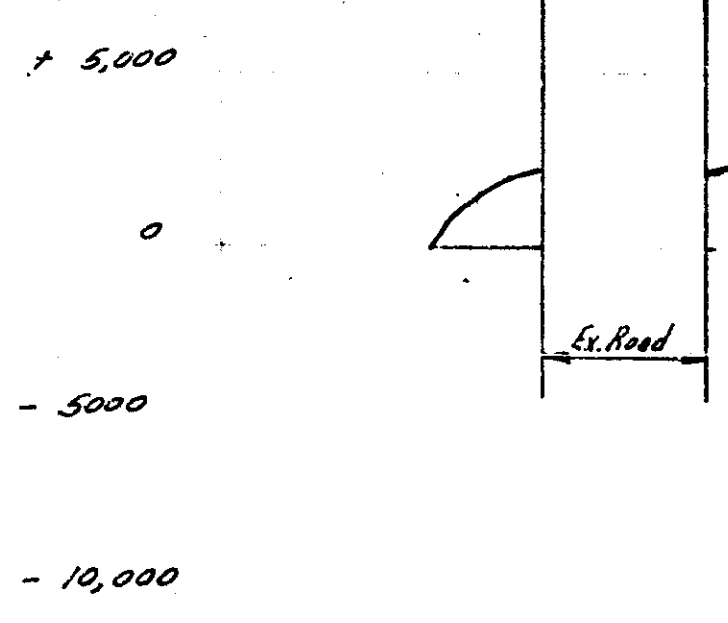
49,347 Cyds. to be placed from Sta. 381+00 to Sta. 370+00 - N.B. Rdwy

Ex. US-27 Reloc.
Scales
Hor. 1" = 500 Ft.
Ver. 1" = 10,000 Cyds.

This Diagram Void



Scales
* Hor. 1" = 500 Ft.
Ver. 1" = 5,000 Cyds.



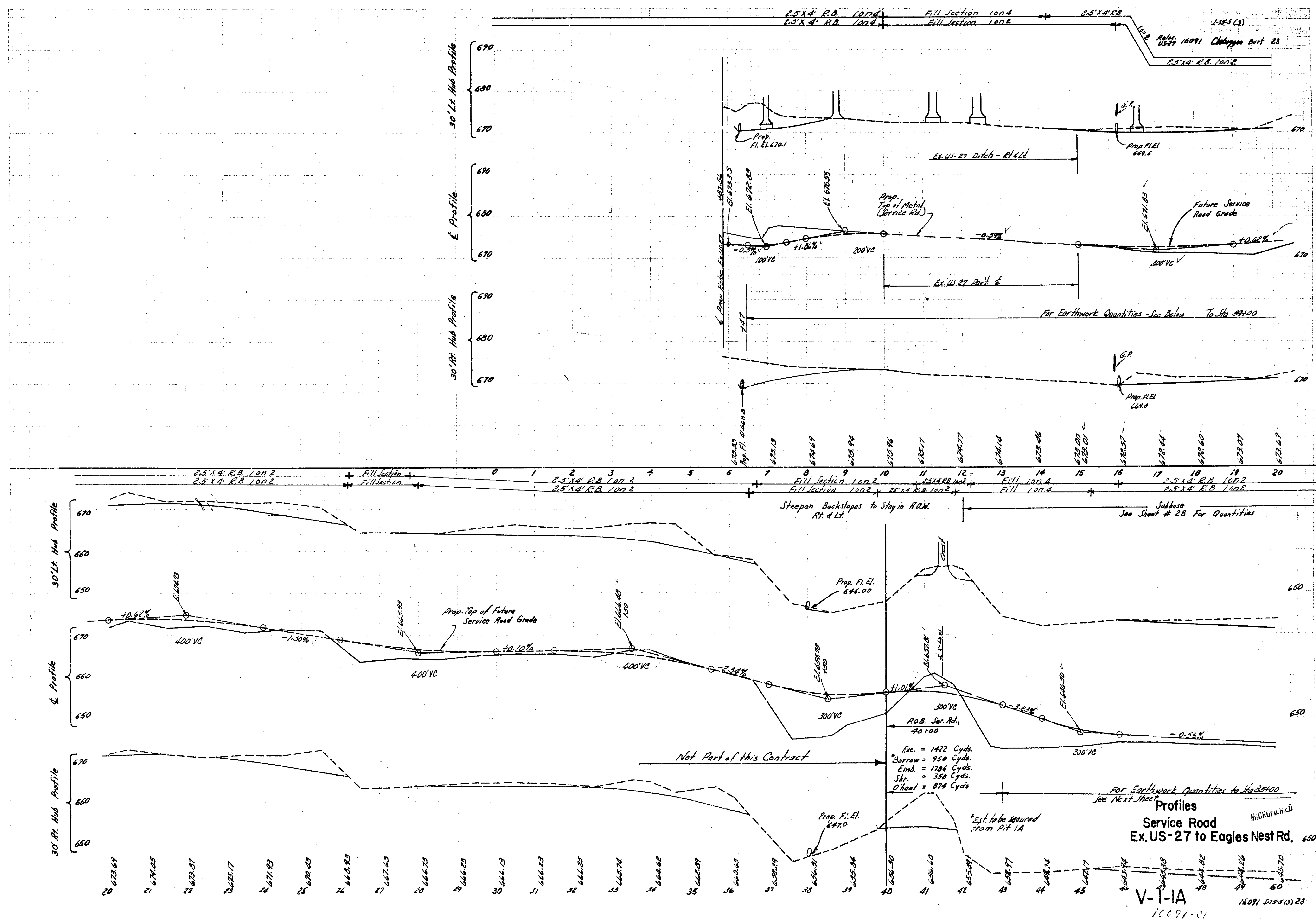
* Borrow = 950 Cyds
O'haul = 950 x .920 = 874 Comp. Cyd. Mi.
* To be secured from Pit #1A

1374 x .748 = 1043 C. Cyd. Mi.
1458 x .521 = 760 C. Cyd. Mi.
2400 x .225 = 540 C. Cyd. Mi.

Service Roads - Ramp

V-1-1A

16091-01



POT 58+56.40
N 25° 15' E 11" N. Birch 102.81'
N 61° E 4" Maple 63.77'
Bent Spike

BM #1 El. 627.69
PK Nail & BM Cap in NW
Root of 28" Maple
25' N. of Service Rd.
Sta. 65+19

BM #2 El. 620.79
PK Nail & BM Cap in E. Root
of 14" Spruce 91.17'
Service Rd. Sta. 62+49

BM #3 El. 630.40
PK Nail & BM Cap in
N.W. Root of 9" Oak
25' N. of Service Rd.
Sta. 70+93

POT 62+34.19
N 31° 45' E 7" Balsam 21.13'
S 89° 25' E 8" Balsam 68.85'
S 65° 30' W 5" N. Birch 68.15'
Bent Spike

Surfacing Quantities
Service Road
Ex. US-27 to Eagles Nest Road
Aggregate Base Course - 5670 Tons
Calcium Chloride Admixed - 170 Tons
Water (1000 gal. units) - 43 Units
Bituminous Prime Coat - 1333 Gals.
Bituminous Material Applied - 12,133 Gals.
Cover Material Applied 248 - 217 Tons
Cover Material Applied 318 - 191 Tons
Class B Shoulders - 1585 Cys.

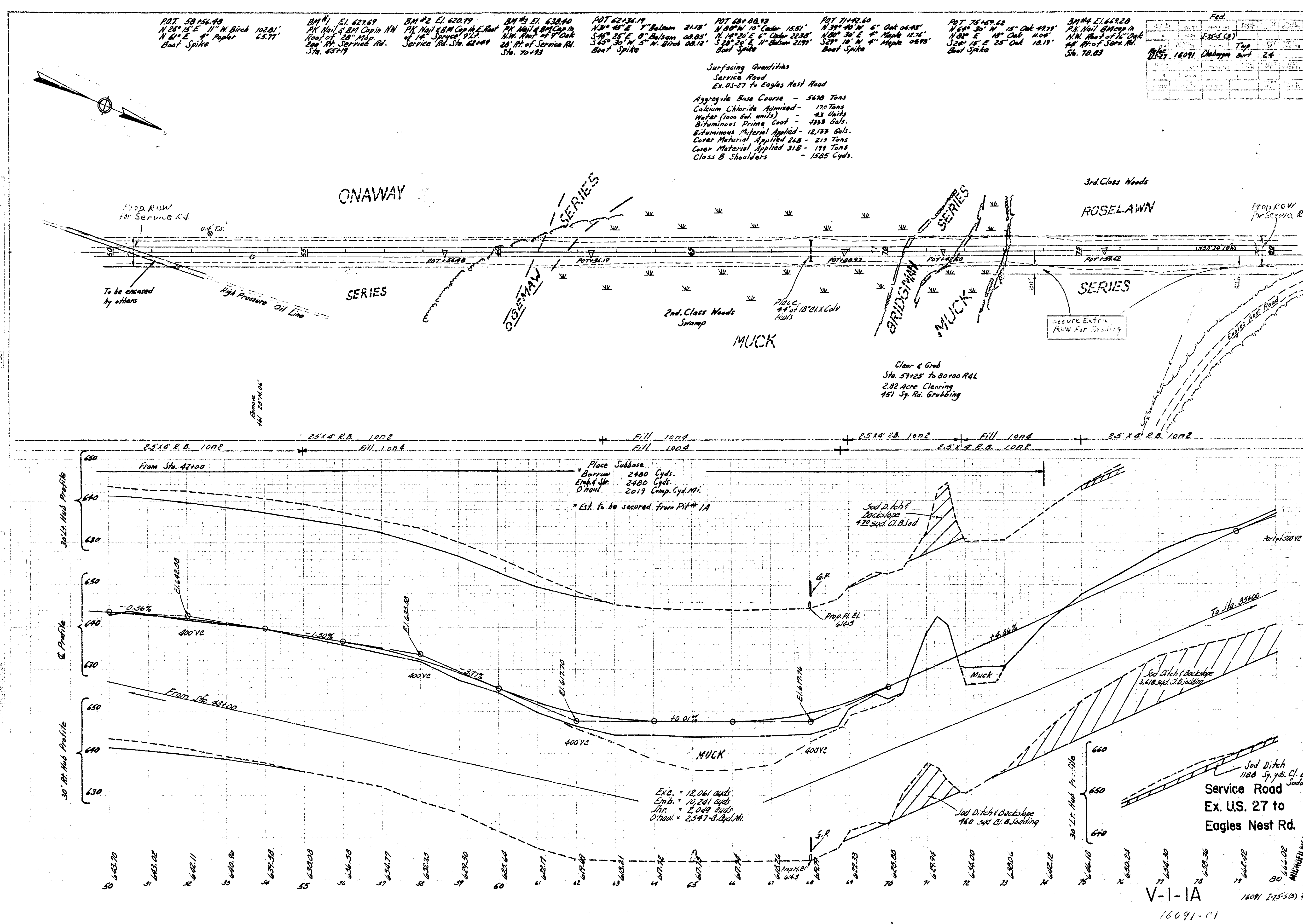
POT 68+08.93
N 88° W 10" Cedar 15.51'
N 14° 20' E 6" Cedar 22.28'
S 28° 30' E 11" Balsam 21.99'
Bent Spike

POT 71+42.60
N 39° 40' W 5" Oak 66.48'
N 80° 30' E 6" Maple 12.24'
S 29° 10' W 4" Maple 66.93'
Bent Spike

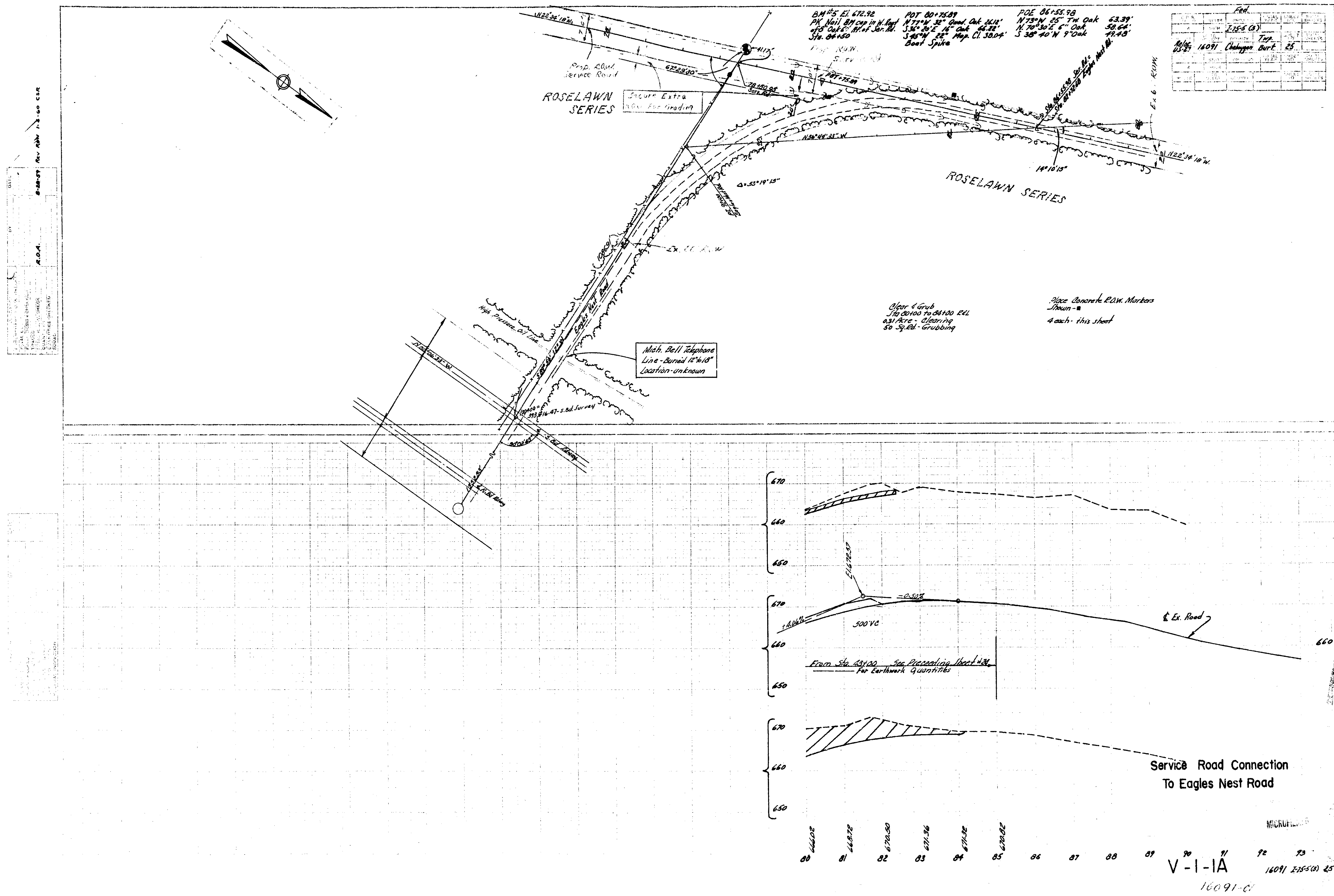
POT 75+59.62
N 64° 30' W 15" Oak 49.77'
N 82° E 11" Oak 11.00'
S 28° 15' E 25" Oak 18.11'
Bent Spike

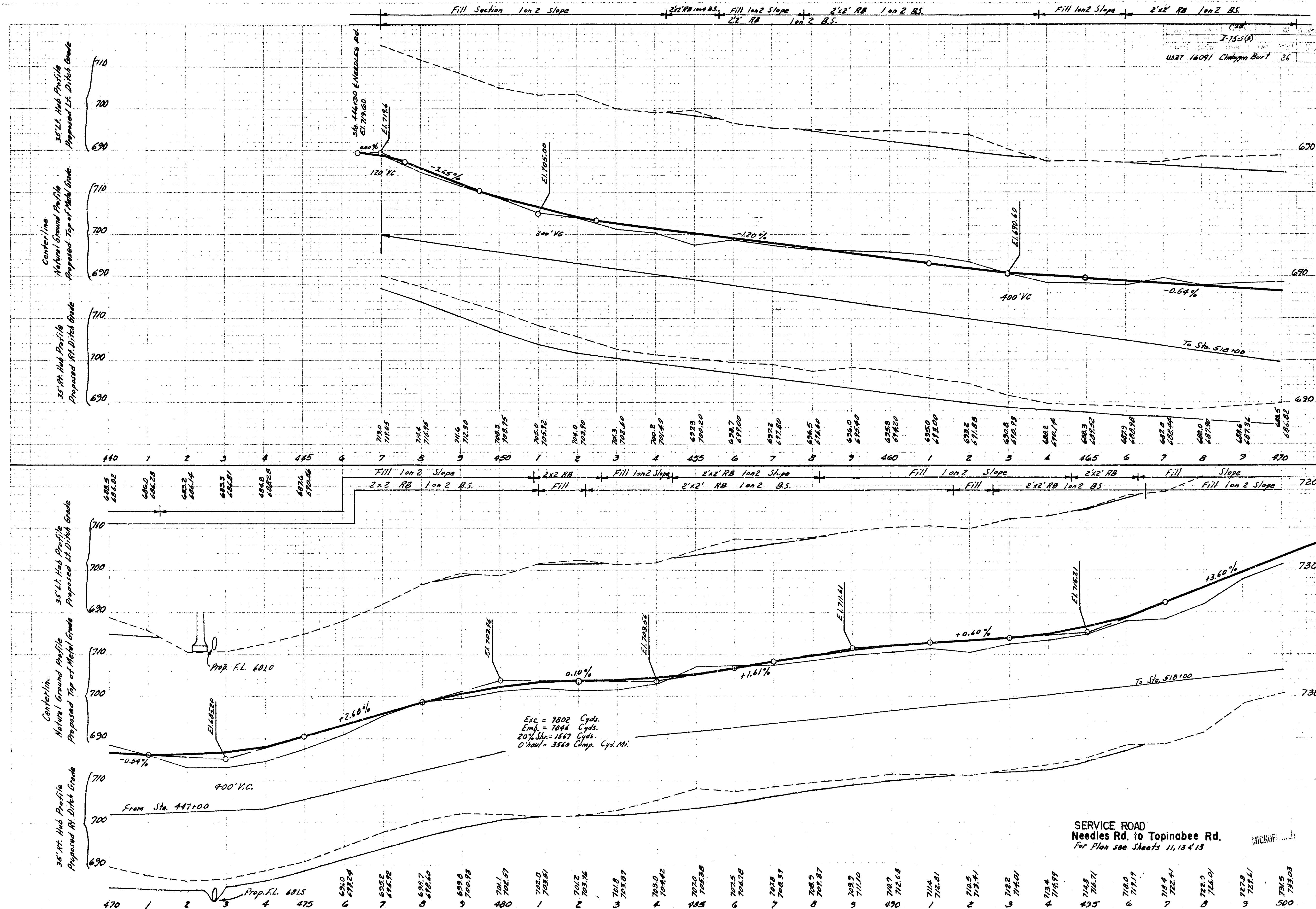
BM #4 El. 648.28
PK Nail & BM Cap in
N.W. Root of 16" Oak
44' N. of Serv. Rd.
Sta. 78.83

Feet			
100	200	300	400
100	200	300	400
500	600	700	800
900	1000	1100	1200
1300	1400	1500	1600
1700	1800	1900	2000
2100	2200	2300	2400
2500	2600	2700	2800
2900	3000	3100	3200
3300	3400	3500	3600
3700	3800	3900	4000



V-1-1A
16091-01
16091 I-15(3) 24

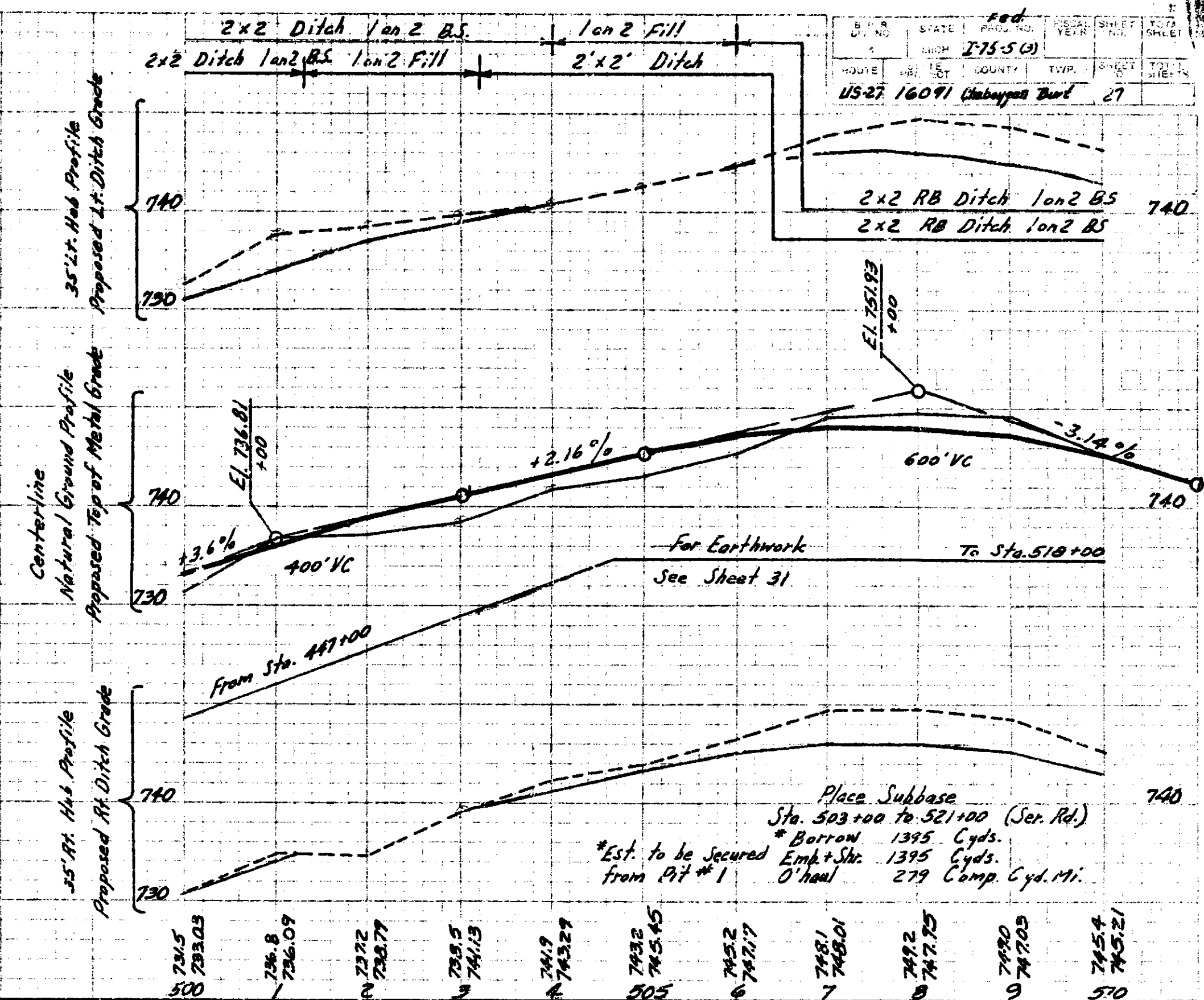
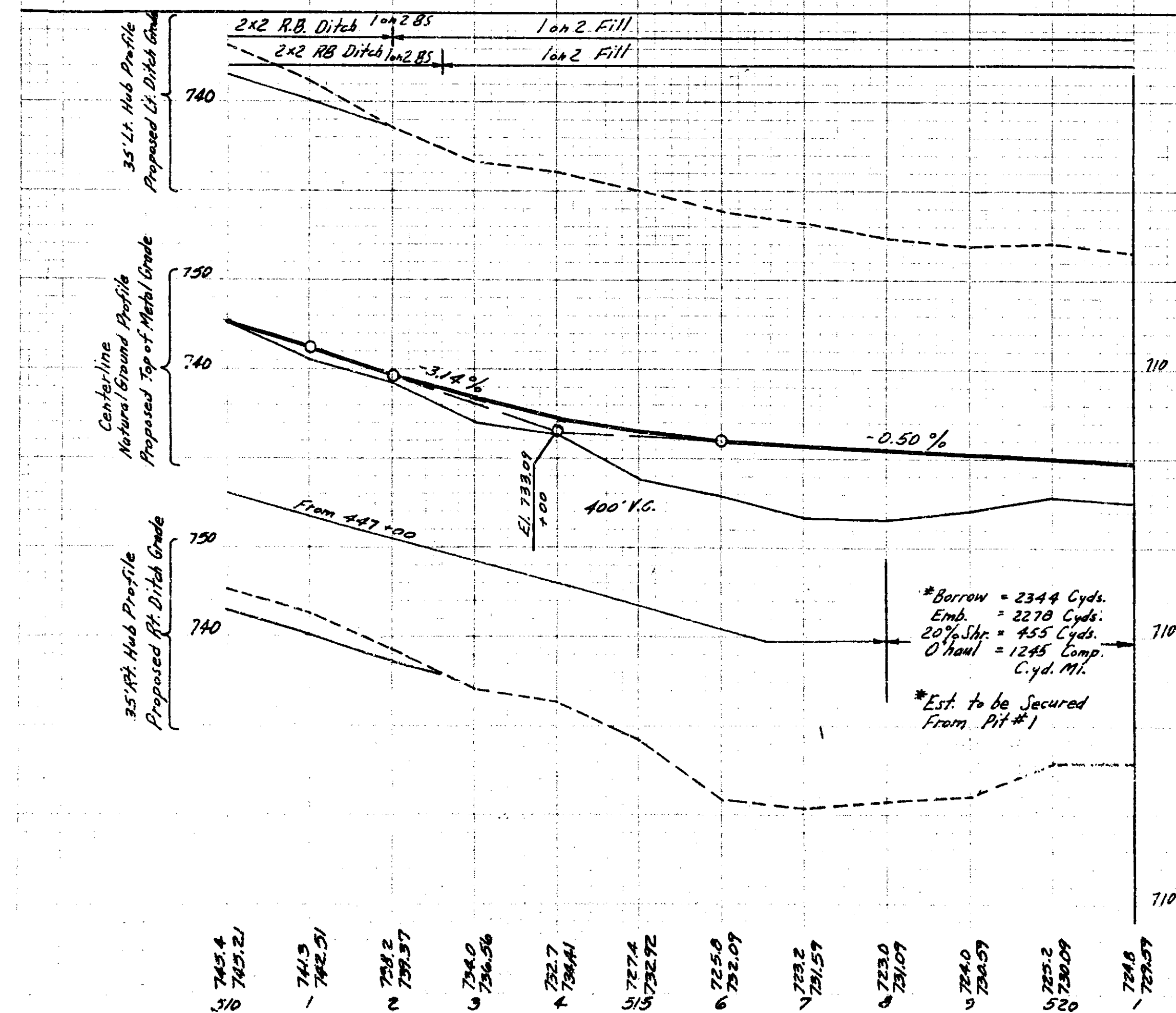




V-1-1A
16091-01

MICROFILMED

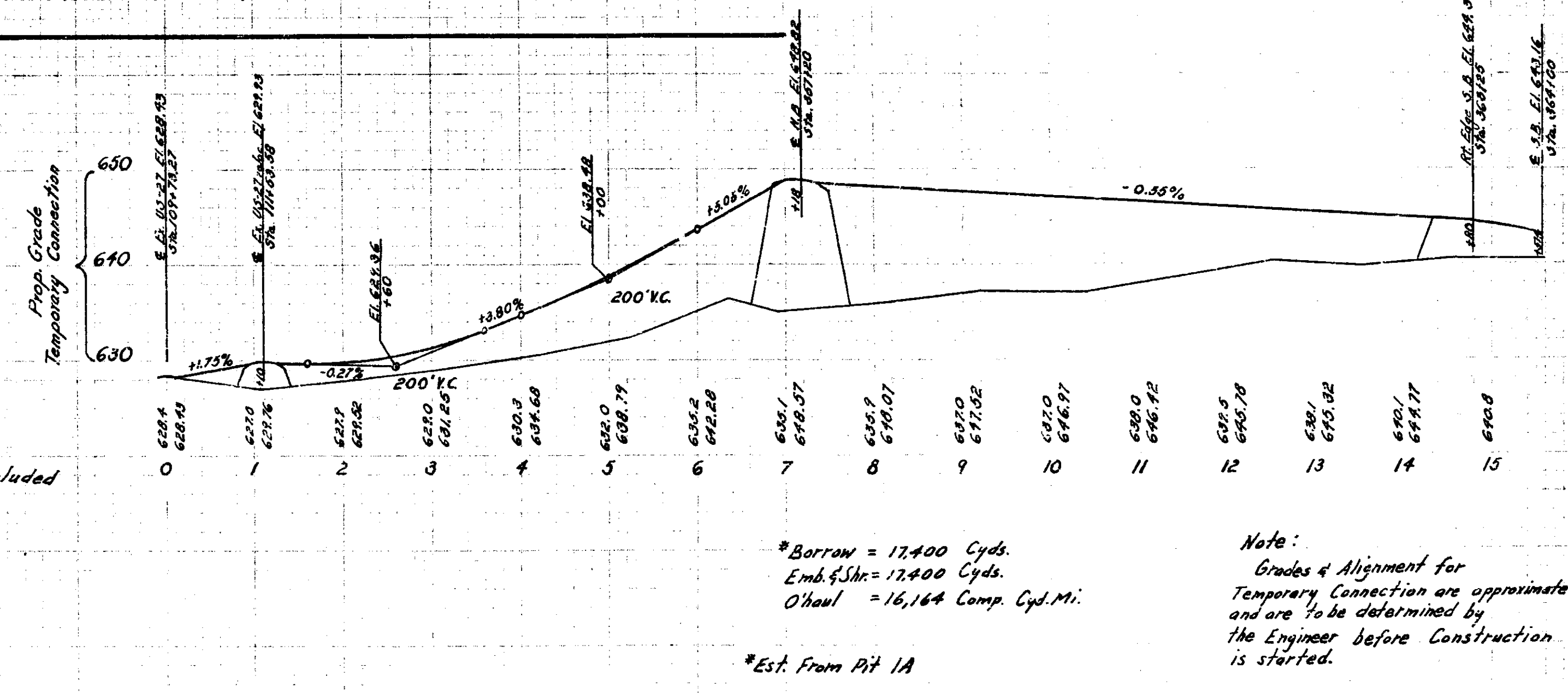
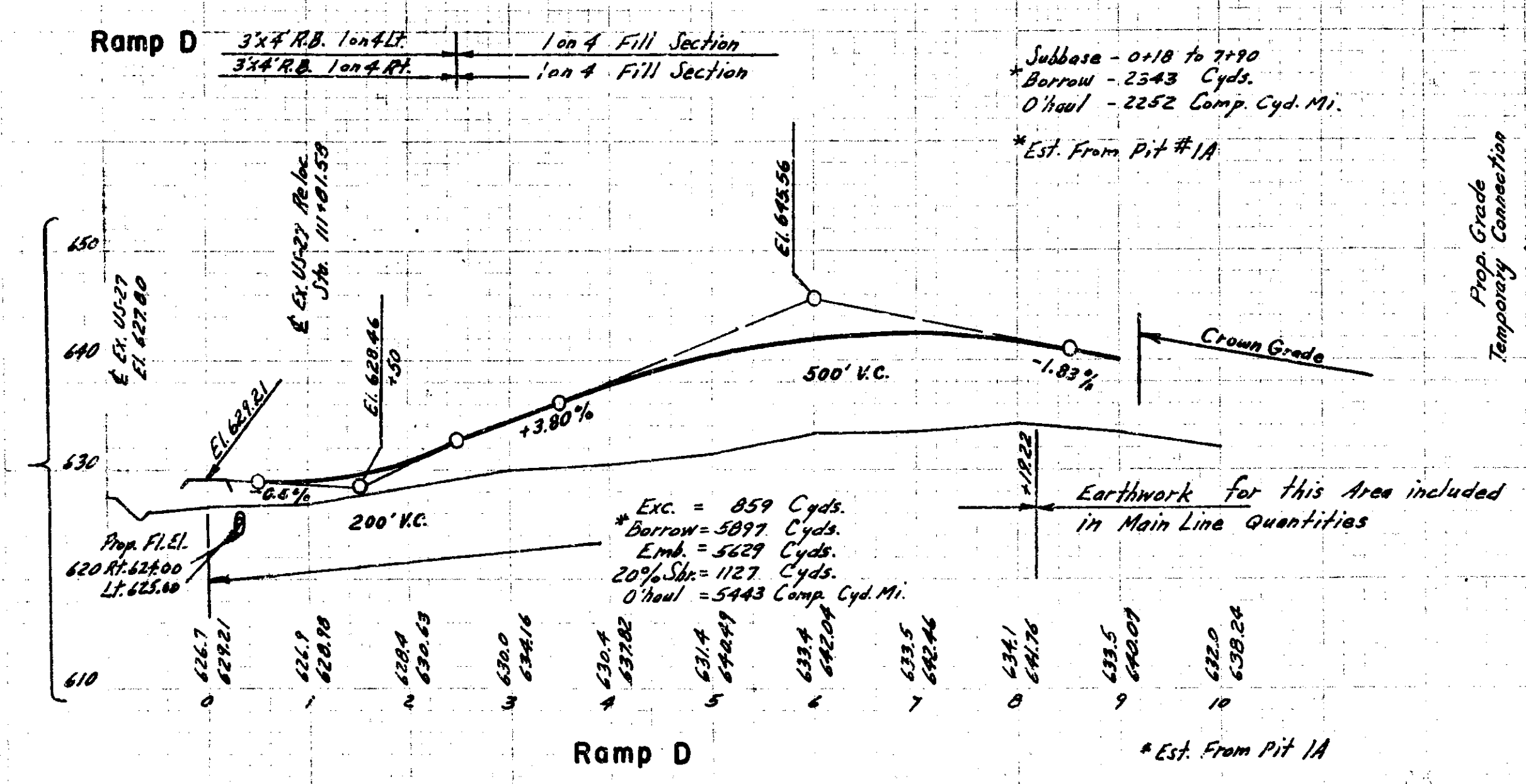
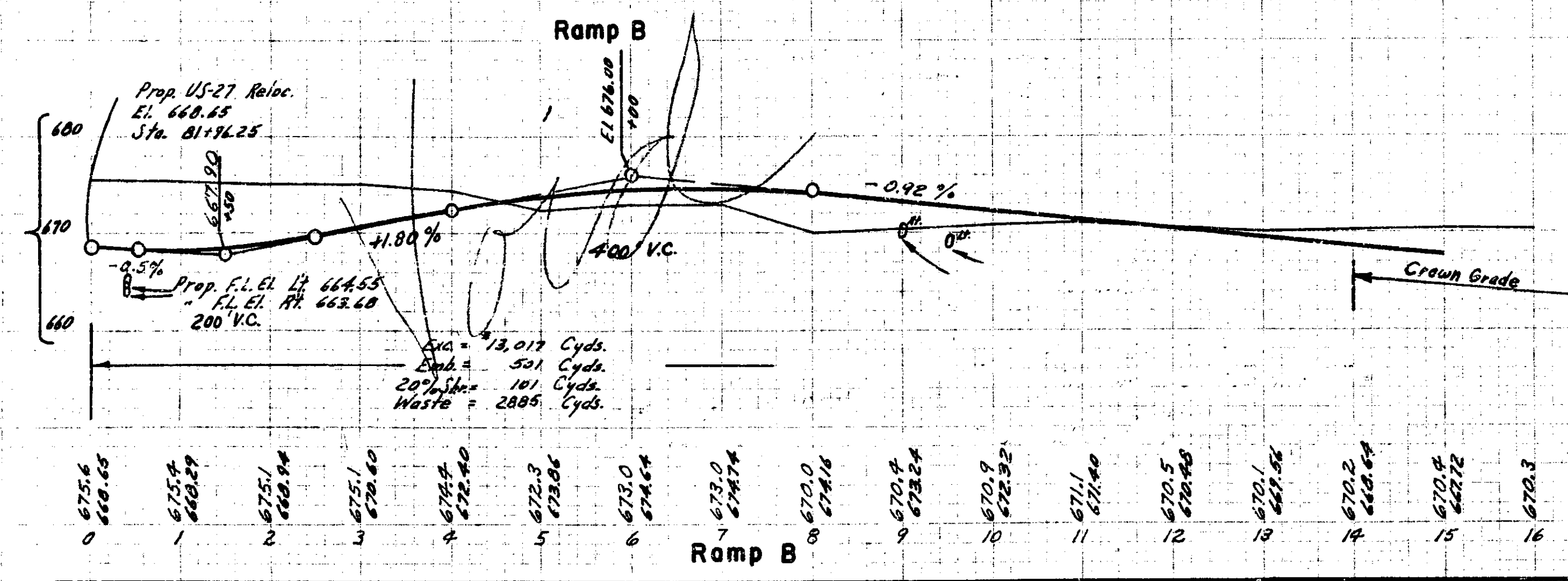
DESIGNED BY	DATE
CHECKED BY	
APPROVED BY	



Service Road
Needles Road to
Topinabee Road

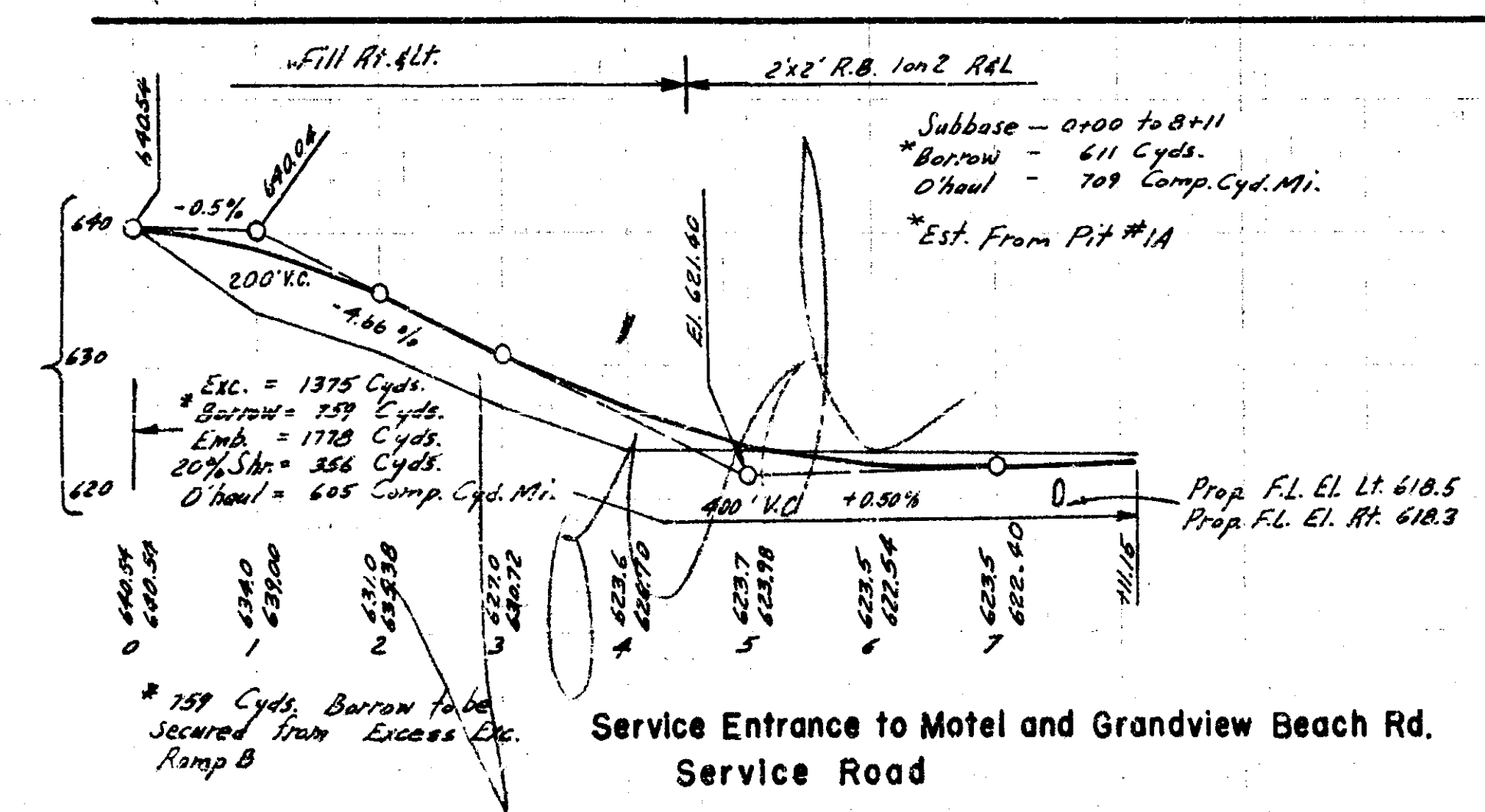
V-1-1A
16091-01

16091 E 75-50 27



*Borrow = 17,400 Cyds.
Emb. & Shr. = 17,400 Cyds.
*Haul = 16,164 Comp. Cyd. Mi.
*Est. From Pit 1A

Note:
Grades & Alignment for
Temporary Connection are approximate
and are to be determined by
the Engineer before Construction
is started.



*759 Cyds. Borrow to be
Secured from Excess Etc.
Ramp B

Profiles
Temporary Road

CLEARING & GRUBBING

BPR DIV NO	STATE	PROJ NO	FISCAL YEAR	SHEET NO	TOTAL SHEET
4	WICH	175-503		29	
ROUTE	STATE PROJECT	COUNTY	TWP	SHEET NO	TOTAL SHEET
176/06 US-27	16091	Cherokee	Buck		

AS PER PLANS										AS CONSTRUCTED										AS PER PLANS										AS CONSTRUCTED									
STATION TO STATION		EARTH EXC	ROCK EXC	BORROW	SELECTED SUBBASE	PORTLAND CEMENT	PORTLAND CEMENT	PORTLAND CEMENT	PORTLAND CEMENT	STATION TO STATION		EARTH EXC	ROCK EXC	BORROW	SELECTED SUBBASE	PORTLAND CEMENT	PORTLAND CEMENT	PORTLAND CEMENT	PORTLAND CEMENT	STATION TO STATION		EARTH EXC	ROCK EXC	BORROW	SELECTED SUBBASE	PORTLAND CEMENT	PORTLAND CEMENT	PORTLAND CEMENT	PORTLAND CEMENT	STATION TO STATION		EARTH EXC	ROCK EXC	BORROW	SELECTED SUBBASE	PORTLAND CEMENT	PORTLAND CEMENT	PORTLAND CEMENT	PORTLAND CEMENT
CODE	STATION	STATION	STATION	STATION	STATION	STATION	STATION	STATION	STATION	CODE	STATION	STATION	STATION	STATION	STATION	STATION	STATION	STATION	STATION	CODE	STATION	STATION	STATION	STATION	STATION	STATION	STATION	STATION	STATION	CODE	STATION	STATION	STATION	STATION	STATION	STATION	STATION	STATION	STATION
N. Bd. Rdwy										N. Bd. Rdwy										N. Bd. Rdwy										N. Bd. Rdwy									
356+00	380+00	630								356+00	380+00	630								356+00	380+00	630							356+00	380+00	630								
380+00	395+00	26232								380+00	395+00	26232								380+00	395+00	26232							380+00	395+00	26232								
395+00	430+00	28668								395+00	430+00	28668								395+00	430+00	28668							395+00	430+00	28668								
430+00	467+00	10228								430+00	467+00	10228								430+00	467+00	10228							430+00	467+00	10228								
467+00	486+00	1834								467+00	486+00	1834								467+00	486+00	1834							467+00	486+00	1834								
486+00	508+00	36320								486+00	508+00	36320								486+00	508+00	36320							486+00	508+00	36320								
508+00	521+00	25248								508+00	521+00	25248								508+00	521+00	25248							508+00	521+00	25248								
S. Bd. Rdwy										S. Bd. Rdwy										S. Bd. Rdwy										S. Bd. Rdwy									
362+00	378+00	1185								362+00	378+00	1185								362+00	378+00	1185							362+00	378+00	1185								
378+00	396+00	40581								378+00	396+00	40581								378+00	396+00	40581							378+00	396+00	40581								
396+00	420+00	8591								396+00	420+00	8591								396+00	420+00	8591							396+00	420+00	8591								
420+00	438+00	3607								420+00	438+00	3607								420+00	438+00	3607							420+00	438+00	3607								
438+00	451+00	10663								438+00	451+00	10663								438+00	451+00	10663							438+00	451+00	10663								
451+00	455+00	2433								451+00	455+00	2433								451+00	455+00	2433							451+00	455+00	2433								
455+00	492+00	1546								455+00	492+00	1546								455+00	492+00	1546							455+00	492+00	1546								
492+00	508+00	28165								492+00	508+00	28165								492+00	508+00	28165							492+00	508+00	28165								
508+00	521+00	23139								508+00	521+00	23139								508+00	521+00	23139							508+00	521+00	23139								
Service Road										Service Road										Service Road										Service Road									
Sta 40+00 to Eagles Nest Rd										Sta 40+00 to Eagles Nest Rd										Sta 40+00 to Eagles Nest Rd										Sta 40+00 to Eagles Nest Rd									
40+00	43+00	1422								40+00	43+00	1422								40+00	43+00	1422							40+00	43+00	1422								
43+00	45+00	12061								43+00	45+00	12061								43+00	45+00	12061							43+00	45+00	12061								
Subbase										Subbase										Subbase										Subbase									
2480										2480										2480										2480									
Service Road										Service Road										Service Road										Service Road									
Needles Rd to Topinabee Rd										Needles Rd to Topinabee Rd										Needles Rd to Topinabee Rd										Needles Rd to Topinabee Rd									
446+30	518+00	9802								446+30	518+00	9802								446+30	518+00	9802							446+30	518+00	9802								
518+00	521+00									518+00	521+00									518+00	521+00								518+00	521+00									
Subbase										Subbase										Subbase										Subbase									
1395										1395										1395										1395									
Interchange at Ex US 27 Reloc										Interchange at Ex US 27 Reloc										Interchange at Ex US 27 Reloc										Interchange at Ex US 27 Reloc									
Ramp D										Ramp D										Ramp D										Ramp D									
0+00	8+19.22	059								0+00	8+19.22	059								0+00	8+19.22	059							0+00	8+19.22	059								
Subbase										Subbase										Subbase										Subbase									
2343										2343										2343										2343									
PEAT EXCAVATION & BACKFILL										PEAT EXCAVATION & BACKFILL										PEAT EXCAVATION & BACKFILL										PEAT EXCAVATION & BACKFILL									
N. Bd. Rdwy										N. Bd. Rdwy										N. Bd. Rdwy										N. Bd. Rdwy									
370+00	386+00	50648								370+00	386+00	50648								370+00	386+00	50648							370+00	386+00	50648								
S. Bd. Rdwy										S. Bd. Rdwy										S. Bd. Rdwy										S. Bd. Rdwy									
370+00	386+00	55576								370+00	386+00	55576								370+00	386+00	55576							370+00	386+00	55576								
P.O.B. P.O.E (S&N)										P.O.B. P.O.E (S&N)										P.O.B. P.O.E (S&N)										P.O.B. P.O.E (S&N)									
8232										8232										8232										8232									
8560										8560										8560										8560									
SUBBASE										SUBBASE										SUBBASE										SUBBASE									
7549										7549										7549										7549									
9207										9207										9207										9207									
3460										3460										3460										3460									
3460										3460										3460										3460									
3460										3460										3460										3460									
3460										3460										3460										3460									
3460										3460										3460										3460									
3460										3460										3460										3460									
3460										3460										3460										3460									
3460										3460										3460										3460									
3460										3460										3460										3460									
3460										3460										3460										3460									
3460										3460										3460										3460									
3460										3460										3460										3460									
3460										3460										3460										3460									
3460										3460										3460										3460									
3460										3460										3460										3460									
3460										3460										3460										3460									
3460										3460										3460										3460									
3460										3460										3460										3460									
3460										3460										3460										3460									
3460										3460										3460										3460									
3460										3460										3460										3460									
3460										3460										3460										3460									
3460										3460										3460										3460									
3460										3460										3460										3460									
3460										3460										3460										3460									
3460										3460										3460										3460									
3460										3460										3460										3460									
3460										3460										3460										3460									
3460										3460										3460										3460									
3460										3460										3460										3460									
3460										3460										3460										3460									
3460										3460										3460										3460									
3460										3460										3460										3460									
3460										3460										3460										3460									
3460										3460										3460										3460									
3460										3460										3460										3460									
3460										3460										3460										3460									
3460										3460										3460										3460									
3460										3460										3460										3460									
3460										3460										3460										3460									
3460										3460										3460										3460									
3460										3460										3460										3460									
3460										3460										3460										3460									
3460										3460										3460										3460									
3460										3460										3460										3460									
3460										3460										3460										3460									
3460										3460										3460										3460									
3460										3460										3460										3460									
3460										3460										3460										3460									
3460										3460										3460										3460									
3460										3460										3460																			

PLAN ESTIMATE BY K. MATTSON DATE 1-13-60 CHECKED BY _____ DATE _____
DATE _____ DATA COMPLETED W. P. COLLON DATE 3-21-62 HISTORY CHECKED _____
DATE _____ PROJ. ENG. ENTERED ON PLAN BY _____ DATE _____

SURFACING - CONCRETE																									B & B DIV. NO. 4 ROUTE 16091 STATE OF MICHIGAN COUNTY CHEBOYGAN TWP. BURT SHEET NO. 32 TOTAL SHEETS 10																																																																																																													
AS PER PLANS															AS CONSTRUCTED																																																																																																																							
STATION TO STATION	LENGTH	WIDTH	CONC. BASE COURSE 12" UNIF.	CONC. PAVT. 9" UNIFORM	CONC. PAVT. 8" UNIFORM	CONC. PAVT. 7" UNIFORM	CONC. PAVT. 6" UNIFORM	PAVT. REIN. 12" X 18" @ 18" O.C.	SELECTED SUBBASE 24" A	BIT. APPROACH MIXTURE 24" A	REAR 312Z COURSE 7" UNIF.	COVER MATL. APPLIED TONS 31.8	COVER MATL. APPLIED TONS 31.8	COVER MATL. APPLIED TONS 31.8	COVER MATL. APPLIED TONS 31.8	COVER MATL. APPLIED TONS 31.8	COVER MATL. APPLIED TONS 31.8	COVER MATL. APPLIED TONS 31.8	COVER MATL. APPLIED TONS 31.8	COVER MATL. APPLIED TONS 31.8	COVER MATL. APPLIED TONS 31.8	COVER MATL. APPLIED TONS 31.8	COVER MATL. APPLIED TONS 31.8	COVER MATL. APPLIED TONS 31.8	COVER MATL. APPLIED TONS 31.8	EXPLANATION OF CHANGES																																																																																																												
362+00	521+00 S.B.	15863.88	24'	42319		42319		12439					3139	3141	14517		Station Equation	362+00	521+00 S.B.	15863.88	24'	42330		42330		42330		REC. NO. 8																																																																																																										
356+00	521+00 N.B.	16507.56	24'	44820		44820		13099					515	7677	15354		Station Equation	356+00	521+00 N.B.	16507.56	24'	44001		44001		44001																																																																																																												
Ramp D (Includes Rec Lane)				2657		2657							20	292	604			Ramp D (Includes Rec Lane)					2657		2657		20	246	685																																																																																																									
42150 App. Svc Rd								225										42150 App. Svc Rd					225																																																																																																															
333+00 N.B. Turnaround								300										333+00 N.B. Turnaround					300																																																																																																															
Service Rd. Needles to Topinabee								5810	201				219	4373	12243			Service Rd. Needles to Topinabee					5810	267		219	3668	13892	REC. NO. 8																																																																																																									
472+50 L.E. Service Rd.								110										472+50 L.E. Service Rd.					110																																																																																																															
Service Rd. 40+00 Eagles Nest								3422	118				128	2558	7166			Service Rd. 40+00 Eagles Nest					3422	169		128	2158	8131																																																																																																										
Temporary Connection								324						643	167	154		Temporary Connection					324				543	0	0 REC. NO. 8																																																																																																									
Temporary Connection @ Svc Rd								234	8				9	175	490			Temporary Connection @ Svc Rd					234	11		9	175	556																																																																																																										
Temporary Connection Passing Lane								195						139	36	33		Temporary Connection Passing Lane					195				139	0	0																																																																																																									
Connection Ex US 27 Reloc.								184						78	20	19		Connection Ex US 27 Reloc.					184				78	0	0																																																																																																									
TOTALS				89796		89796		36342	327			1388	23344	223	50674	206		TOTALS					88988		88988		36702	467	1400	19750	9	57500	0																																																																																																					
CURB & GUTTER - SIDEWALKS															SHOULDERS										MISCELLANEOUS																																																																																																													
AS PER PLANS															AS CONSTRUCTED										AS PER PLANS					AS CONST.																																																																																																								
STATION TO STATION	DETAIL 2 LIN FT	DETAIL 7 LIN FT	DETAIL 8 LIN FT	DETAIL 10 LIN FT	DETAIL 12A LIN FT	CONC SW 4" 30#	DETAIL 2 LIN FT	DETAIL 7 LIN FT	DETAIL 8 LIN FT	DETAIL 10 LIN FT	DETAIL 12A LIN FT	CONC SW 4" 30#	STATION TO STATION	CLASS 4 TONS	CLASS 4A TONS	CLASS B CU YDS	CAL CHL ADM TYP 1	WATER MOD BIT	CLASS 4 TONS	CLASS 4A TONS	CLASS B CU YDS	CAL CHL ADM TYP 1	WATER MOD BIT	REMARKS	CODE	ITEM	QUANTITY	QUANTITY	EXPLANATION																																																																																																									
CODE	2702	2712	2714	2716	2722	3101 3103	2702	2712	2714	2716	2722	3101 3103	CODE	3112	3120	3115	3072	3150	3112	3120	3115	3072	3150		3310	CONC ROW MARKERS	EACH	EACH																																																																																																										
													Service Rd. Needles to Topinabee	1352											3311	ROAD PROJ MARKERS	EACH	EACH																																																																																																										
													Service Rd. 40+00 Eagles Nest	956												MONUMENT BOXES	EACH	EACH																																																																																																										
													Temporary Connection To Service Rd	69																																																																																																																								
													Temporary Connection Passing Lane	224																																																																																																																								
													Temporary Connection	544																																																																																																																								
TOTALS													TOTALS	3145	SEE SHEET N	3145																																																																																																																						
PLAN ESTIMATE BY K. MATTON															DATE 1-13-60															CHECKED BY															DATE															DATA COMPLETED W. P. COLLON															DATE 3-21-62															HISTORY CHECKED ENTERED ON PLAN BY															DATE															SHEET 1														

MISCELLANEOUS

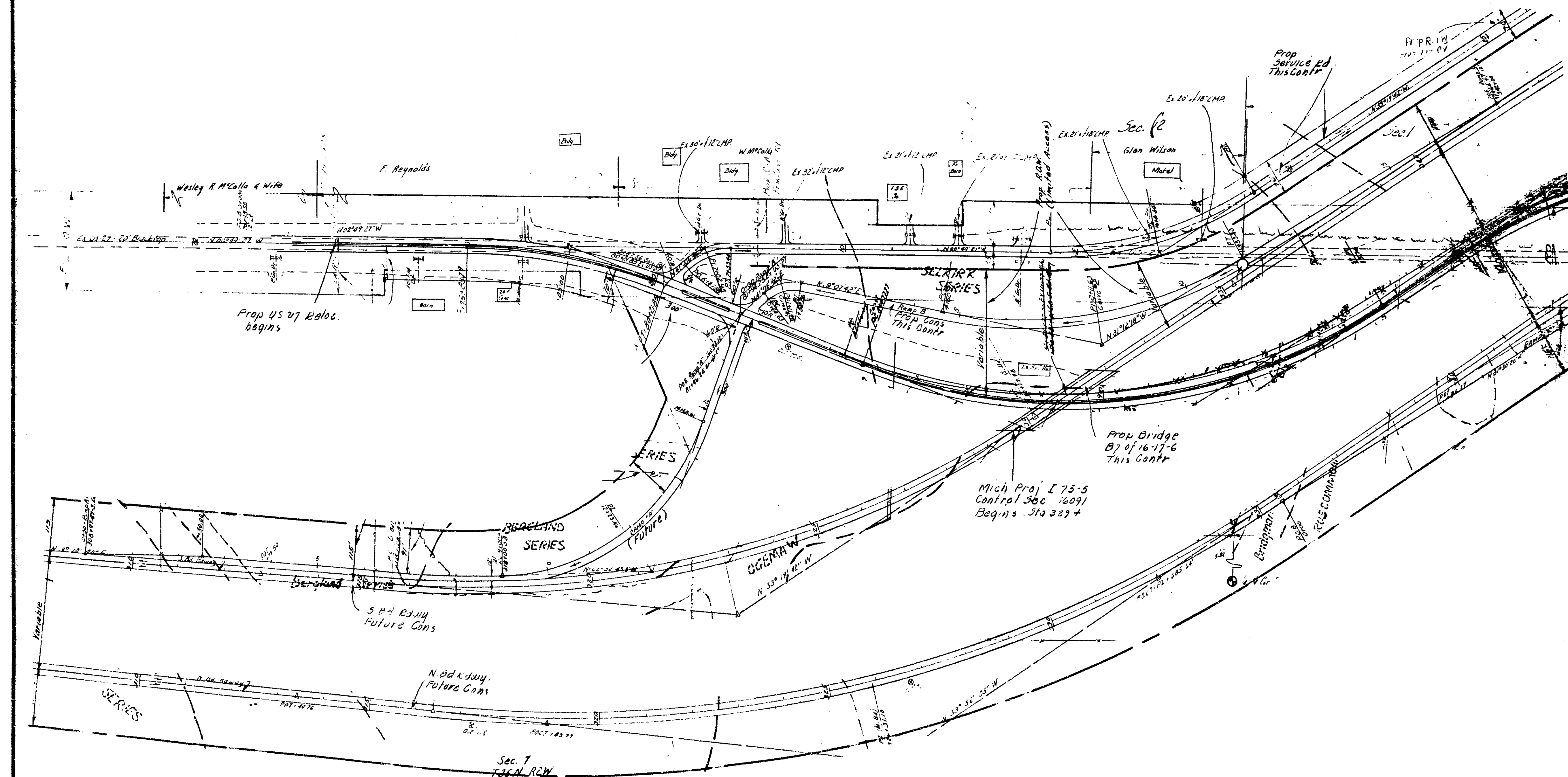
GUARD RAIL										REMOVALS										SEEDING - MULCHING														
AS PER PLANS					AS CONSTRUCTED					AS PER PLANS					AS CONSTRUCTED					AS PER PLANS					AS CONSTRUCTED									
STATION TO	STATION	STEEL BEAM	STEEL POST	EXPLANATION OF CHANGES	STATION TO	STATION	OLD PAINT	NEW PAINT	EXPLANATION OF CHANGES	STATION TO	STATION	CLASS	ACRES	MULCHING	EXPLANATION OF CHANGES	STATION TO	STATION	CLASS	ACRES	MULCHING	EXPLANATION OF CHANGES													
370+20	386+60	N.B.	1640		370+20	386+60	N.B.	1640		370+20	386+60	N.B.	1640			370+20	386+60	N.B.	1640															
370+60	376+00	N.B.	540		370+60	376+00	N.B.	540		370+60	376+00	N.B.	540			370+60	376+00	N.B.	540															
371+00	376+00	S.B.	500		371+00	376+00	S.B.	500		371+00	376+00	S.B.	500			371+00	376+00	S.B.	500															
372+40	386+70	S.B.	1430		372+40	386+70	S.B.	1430		372+40	386+70	S.B.	1430			372+40	386+70	S.B.	1430															
Sheet 1					28					32 REC. NO. 8																								
TOTALS					4110					28					1910					32														

SODDING										STATION ITEMS										OBLITERATING OLD ROAD									
AS PER PLANS					AS CONSTRUCTED					AS PER PLANS					AS CONSTRUCTED					AS PER PLANS					AS CONSTRUCTED				
STATION TO	STATION	CLASS	ACRES	EXPLANATION OF CHANGES	STATION TO	STATION	CLASS	ACRES	EXPLANATION OF CHANGES	STATION TO	STATION	CLASS	ACRES	EXPLANATION OF CHANGES	STATION TO	STATION	CLASS	ACRES	EXPLANATION OF CHANGES										
370+20	386+60	N.B.	3689		370+20	386+60	N.B.	3689		370+20	386+60	N.B.	3689		370+20	386+60	N.B.	3689											
370+60	376+00	N.B.	1396		370+60	376+00	N.B.	1396		370+60	376+00	N.B.	1396		370+60	376+00	N.B.	1396											
371+00	376+00	S.B.	1400		371+00	376+00	S.B.	1400		371+00	376+00	S.B.	1400		371+00	376+00	S.B.	1400											
372+40	386+90	S.B.	4600		372+40	386+90	S.B.	4600		372+40	386+90	S.B.	4600		372+40	386+90	S.B.	4600											
386+00	403+00	N.B.	4729		386+00	403+00	N.B.	4729		386+00	403+00	N.B.	4729		386+00	403+00	N.B.	4729											
388+60	403+00	N.B.	6678		388+60	403+00	N.B.	6678		388+60	403+00	N.B.	6678		388+60	403+00	N.B.	6678											
388+40	398+00	S.B.	4349		388+40	398+00	S.B.	4349		388+40	398+00	S.B.	4349		388+40	398+00	S.B.	4349											
388+60	398+00	S.B.	4915		388+60	398+00	S.B.	4915		388+60	398+00	S.B.	4915		388+60	398+00	S.B.	4915											
395+00	404+00	S.B.	1788		395+00	404+00	S.B.	1788		395+00	404+00	S.B.	1788		395+00	404+00	S.B.	1788											
398+00	404+00	S.B.	853		398+00	404+00	S.B.	853		398+00	404+00	S.B.	853		398+00	404+00	S.B.	853											
500+20	513+00	N.B.	6781		500+20	513+00	N.B.	6781		500+20	513+00	N.B.	6781		500+20	513+00	N.B.	6781											
513+00	514+00	N.B.	200		513+00	514+00	N.B.	200		513+00	514+00	N.B.	200		513+00	514+00	N.B.	200											
514+00	516+00	S.B.	400		514+00	516+00	S.B.	400		514+00	516+00	S.B.	400		514+00	516+00	S.B.	400											
Sheet 2					5736					5736																			
TOTALS					47516					3260					REC. NO. 8														

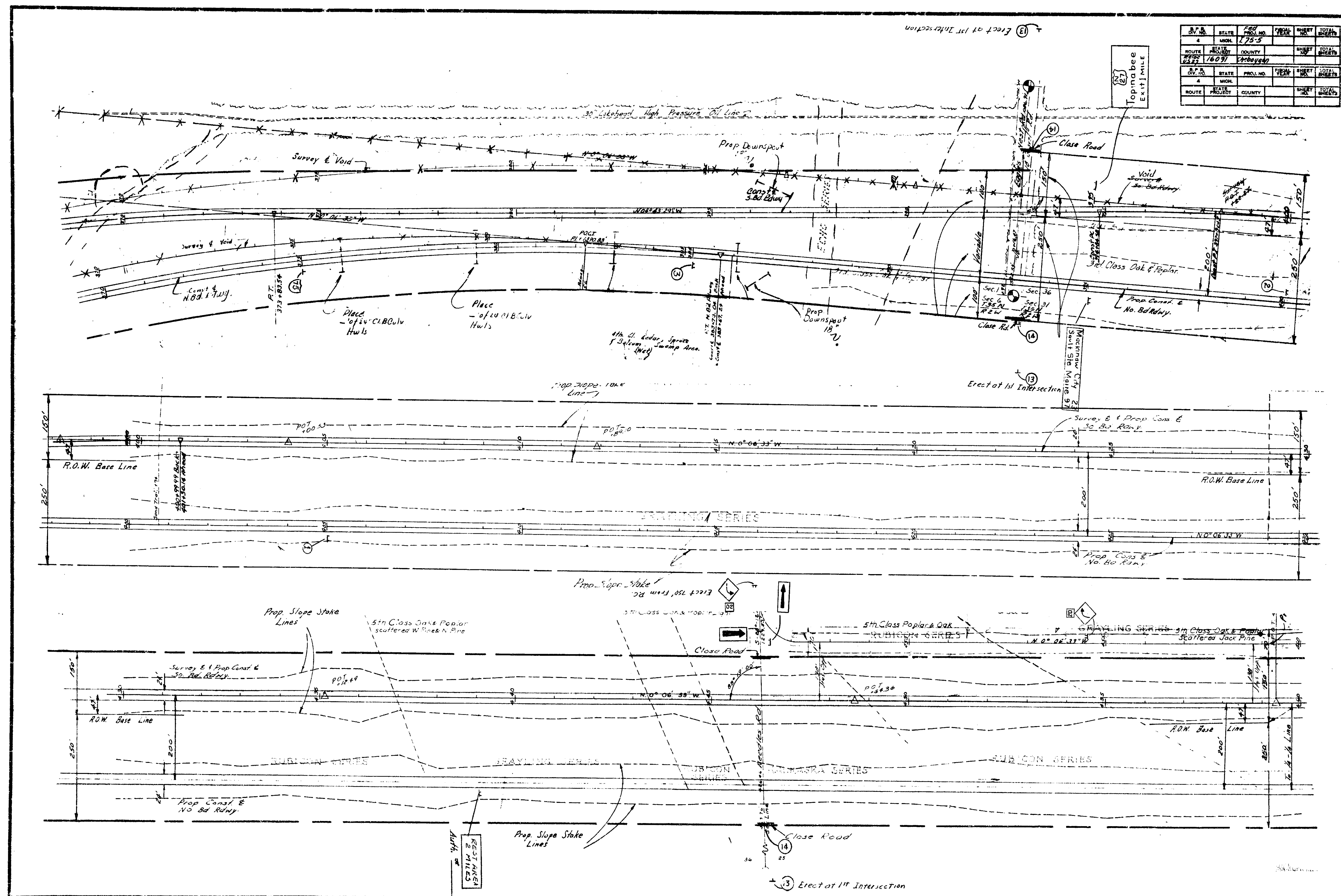
ROW FENCING										MAINTAINING TRAFFIC									
AS PER PLANS					AS CONSTRUCTED					AS PER PLANS					AS CONSTRUCTED				
STATION TO	STATION	REMOVING	STEEL BARBED	EXPLANATION OF CHANGES	STATION TO	STATION	REMOVING	STEEL BARBED	EXPLANATION OF CHANGES	STATION TO	STATION	CLASS	ACRES	EXPLANATION OF CHANGES					
Sheet 5		133	133		Sheet 5		133	133		Sheet 5		133	133						
Sheet 7		365	193	172	Sheet 7		365	193	172	Sheet 7		365	193	172					
Sheet 9		364	364		Sheet 9		364	364		Sheet 9		364	364						
Sheet 11		364	364		Sheet 11		364	364		Sheet 11		364	364						
Sheet 13		364	364		Sheet 13		364	364		Sheet 13		364	364						
Sheet 15		364	364		Sheet 15		364	364		Sheet 15		364	364						
Sheet 17		13	13		Sheet 17		13	13		Sheet 17		13	13						
TOTALS					1967					193					1774				

MISCELLANEOUS									
AS PER PLANS					AS CONSTR				
CODE	ITEM	QUANTITY	QUANTITY	EXPLANATION OF CHANGES					
0130	COMPACTING ORIGINAL GROUND	STAS	STAS						
0131	COMPACTING CUT SECTIONS	STAS	STAS						
0132	TESTING EARTH GRADE WITH COMPACTOR	450	36.5	REC. NO. 8					
	Topsoil Surface	10772 Cuds	10772 Cuds	REC. NO. 8					
	Aggr. 22 B - Furnished (Non-Federal)	3000 Ton	3000 Ton	REC. NO. 8					
3072	CALCIUM CHLORIDE ADMIXED TYPE I	180	180.5	REC. NO. 13					
3150	WATER (1000 GAL UNITS)	65	647	REC. NO. 8					
	Conc. R.O.W. Markers	8 Each	6 Each	REC. NO. 8					
	Monument Boxes	1 Each	1 Each	REC. NO. 8					
	Hyd. Cons. Sta. 375+00-380+00 N.B. Rd.	2500 Lumps	10,265	REC. NO. 8					
	6" Sewer Pipe Underdrain	1840 Lin. Ft.	0 Lin. Ft.	REC. NO. 8					
	N.B.	881 Lin. Ft.	0 Lin. Ft.	REC. NO. 8					
	Ramp D	30 Lin. Ft.	30 Lin. Ft.	REC. NO. 8					
	Total Length of Dual 24' Pavement	2911 Lin. Ft.	303 Lin. Ft.	REC. NO. 8					
			3.126 Miles						

S.P. NO.	STATE	PROJ. NO.	PROJ. NAME	SHEET NO.	TOTAL SHEETS
4	MICH.	175-5			
ROUTE	STATE	COUNTY		SHEET NO.	TOTAL SHEETS
16091	16091	Calhoun			
S.P. NO.	STATE	PROJ. NO.	PROJ. NAME	SHEET NO.	TOTAL SHEETS
4	MICH.				
ROUTE	STATE	COUNTY		SHEET NO.	TOTAL SHEETS



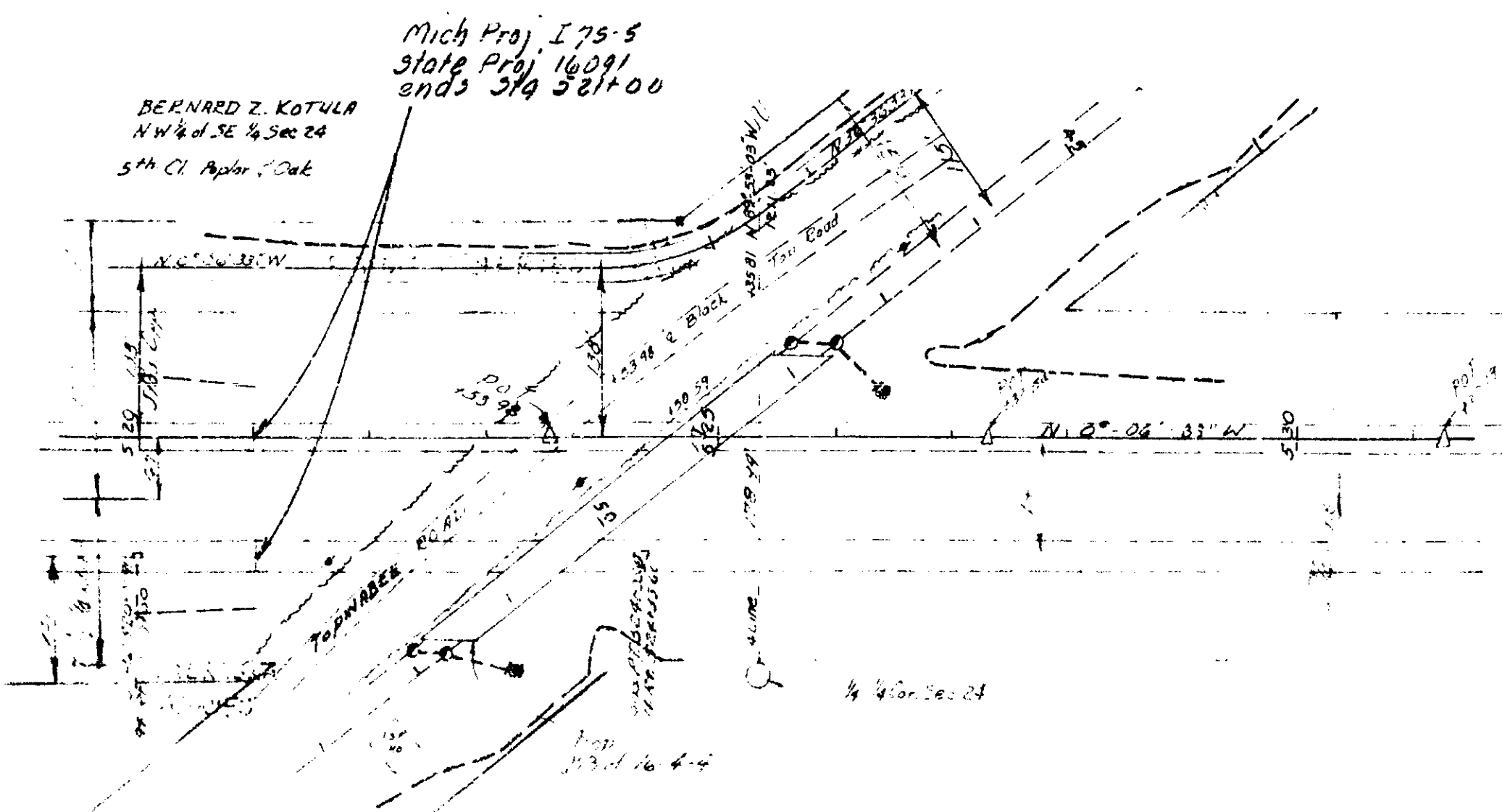
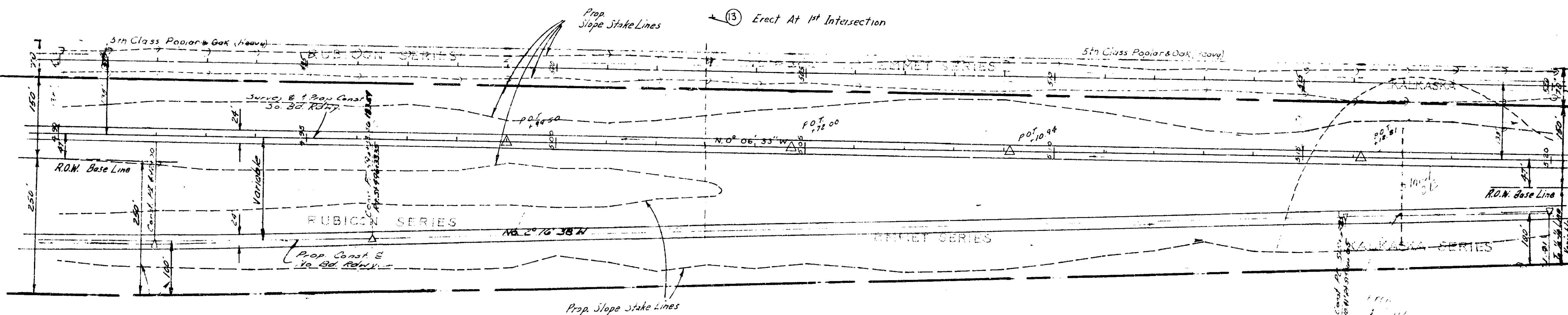
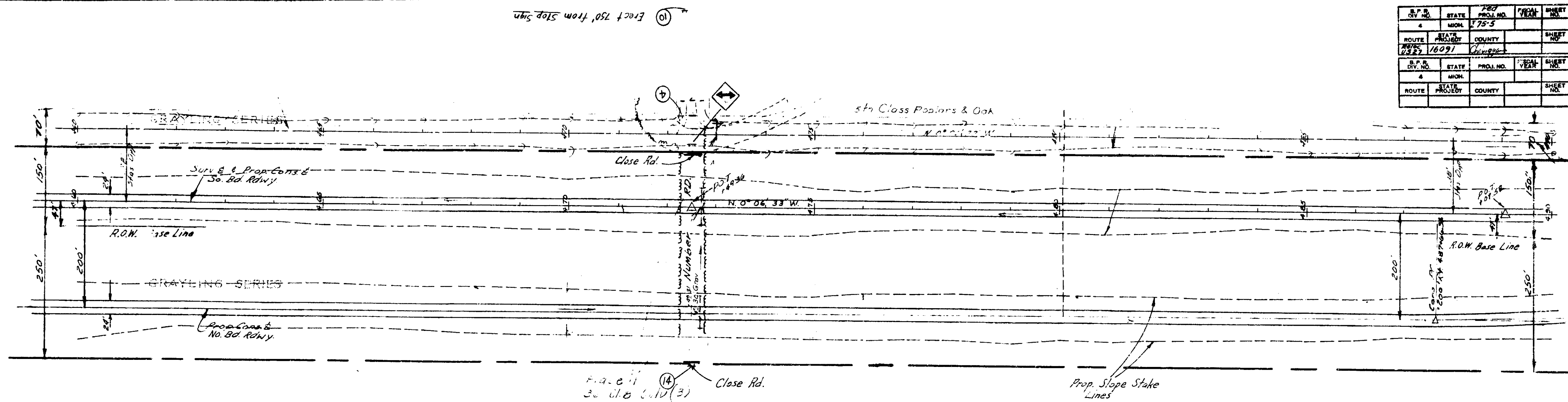
V-1-1A
11.091-24



STATE	PROJECT	COUNTY	SHEET NO.	TOTAL SHEETS
STATE	PROJECT	COUNTY	SHEET NO.	TOTAL SHEETS

V-1-1A
16091-21

STATE	PROJ. NO.	YEAR	SHEET NO.	TOTAL SHEETS
MICH.	175-5			
ROUTE	PROJECT	COUNTY	SHEET NO.	TOTAL SHEETS
16091	16091	Calhoun		
STATE	PROJ. NO.	YEAR	SHEET NO.	TOTAL SHEETS
MICH.	175-5			
ROUTE	PROJECT	COUNTY	SHEET NO.	TOTAL SHEETS
16091	16091	Calhoun		



QUANTITY SHEET — SIGNS AND SUPPORTS

Item No.	Item	Station ±	Quantity	Size ft.	Spec. Plan	Aluminum Alloy Overhead Sign Support Structures (ea.)														Steel Cantilever Supports (ea.)					Steel Roadside Supports (ea.)		Std. Steel Pipes (lin. ft.)					Std. Heavy Steel Sign Posts (lin. ft.)		Delineators (ea.)			Type A Sign Face (sq. ft.)		Type B Sign Face (sq. ft.)		Type C Sign Face (sq. ft.)		Type D Sign Face (sq. ft.)		Steel Beam Guard Rail (lin. ft.)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
						50 ft.	55 ft.	60 ft.	65 ft.	70 ft.	75 ft.	80 ft.	85 ft.	90 ft.	95 ft.	100 ft.	Concrete Base	Type I	Type II	Type III	Type IV	Concrete Base	8B10	8W20	Concrete Base	2 in.	2½ in.	3 in.	3½ in.	4 in.	(lin. ft.)	(lin. ft.)	Single Clear	Double Amber	Triple Amber	Alum. Extr.	Plywood Sheet	Alum. Sheet	Alum. Extr.	Plywood Sheet	Alum. Sheet	Plywood Sheet	Alum. Sheet	Plywood Sheet	Alum. Sheet																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					

S.P.S. DIV. NO.	STATE	PROJ. NO.	FEED. NO.	SHEET NO.	TOTAL SHEETS
4	MICH.	1755C			
ROUTE	STATE PROJECT	COUNTY		SHEET NO.	TOTAL SHEETS
1755	16091	Wayne			
S.P.S. DIV. NO.	STATE	PROJ. NO.	FEED. NO.	SHEET NO.	TOTAL SHEETS
4	MICH.				
ROUTE	STATE PROJECT	COUNTY		SHEET NO.	TOTAL SHEETS

Totals this sheet

V-1-1A

QUANTITY SHEET — SIGNS & SUPPORTS

STATE	ROUTE	PROJECT	COUNTY	SHEET NO.	TOTAL SHEETS
MI	27	1000	Alcona	1	1

Item	Station	Quantity	Size (ft)	Spec. Plan	Aluminum Alloy Overhead Sign Support Structures (ea.)																Steel Cantilever Supports (ea.)					Steel Roadside Supports (ea.)			Std. Steel Pipes (lin. ft.)				Std. Steel Sign Post	Heavy Steel Sign Post	Delineators (ea.)			Type A Sign Face (sq. ft.)		Type B Sign Face (sq. ft.)		Type C Sign Face (sq. ft.)		Type D Sign Face (sq. ft.)		Steel Beam Guard Rail (lin. ft.)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
					50 ft.	55 ft.	60 ft.	65 ft.	70 ft.	75 ft.	80 ft.	85 ft.	90 ft.	95 ft.	100 ft.	Concrete Base	Type I	Type II	Type III	Type IV	Concrete Base	SB10	SB12	2 in.	3 in.	4 in.	6 in.	8 in.	10 in.	12 in.	14 in.	16 in.			18 in.	20 in.	24 in.	30 in.	36 in.	42 in.	48 in.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															

Huth A-1001
 Huth H-1001
 Rec. #9
 Huth B-2001
 Rec. #9
 Rec. #9

Totals - As Constructed
 82
 15.15 164
 V-11A